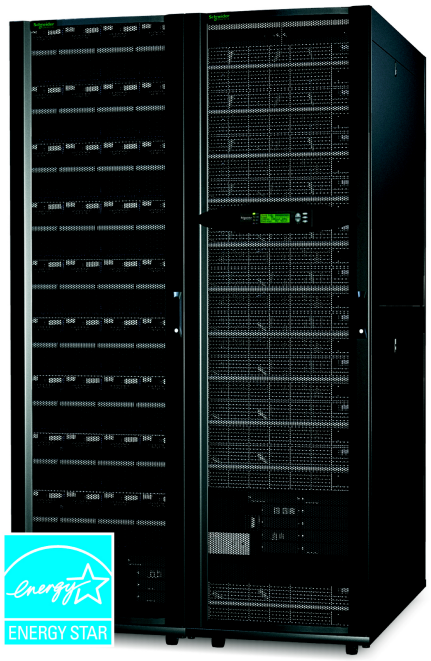
Symmetra™ PX

100 kW 208 V

Technical Specifications

Including Optional 100 kW Modular PDUs and Optional 300 mm Maintenance Bypass Panel (600:208 V, 480:208 V, 208:208 V, 208 V Transformerless)

11/2016



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Important Safety Instructions — SAVE THESE INSTRUCTIONS

Read these instructions carefully and look at the equipment to become familiar with it before trying to install, operate, service or maintain it. The following safety messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of this symbol to a “Danger” or “Warning” safety message indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages with this symbol to avoid possible injury or death.

⚠DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

Failure to follow these instructions will result in death or serious injury.

⚠WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

Failure to follow these instructions can result in injury or equipment damage.

NOTICE

NOTICE is used to address practices not related to physical injury. The safety alert symbol shall not be used with this type of safety message.

Failure to follow these instructions can result in equipment damage.

Please Note

Electrical equipment should only be installed, operated, serviced, and maintained by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

Safety Precautions

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- The product must be installed according to the specifications and requirements as defined by Schneider Electric. It concerns in particular the external and internal protections (upstream circuit breakers, battery circuit breakers, cabling, etc.) and environmental requirements. No responsibility is assumed by Schneider Electric if these requirements are not respected.
- After the UPS system has been electrically wired, do not start up the system. Start-up must only be performed by Schneider Electric.

Failure to follow these instructions will result in death or serious injury.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

The UPS System must be installed according to local and national regulations. Install the UPS according to:

- IEC 60364 (including 60364–4–41- protection against electric shock, 60364–4–42 - protection against thermal effect, and 60364–4–43 - protection against overcurrent), **or**
- NEC NFPA 70

depending on which one of the standards apply in your local area.

Failure to follow these instructions will result in death or serious injury.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Install the UPS system in a temperature controlled area free of conductive contaminants and humidity.
- Install the UPS system on a non-inflammable, level, and solid surface (e.g. concrete) that can support the weight of the system.

Failure to follow these instructions will result in death or serious injury.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

The UPS is not designed for and must therefore not be installed in the following unusual operating environments:

- Damaging fumes
- Explosive mixtures of dust or gases, corrosive gases, or conductive or radiant heat from other sources
- Moisture, abrasive dust, steam or in an excessively damp environment
- Fungus, insects, vermin
- Salt-laden air or contaminated cooling refrigerant
- Pollution degree higher than 2 according to IEC 60664-1
- Exposure to abnormal vibrations, shocks, and tilting
- Exposure to direct sunlight, heat sources, or strong electromagnetic fields

Failure to follow these instructions will result in death or serious injury.

NOTICE

RISK OF OVERHEATING

Respect the clearance requirements around the UPS system and do not cover the product's ventilation openings when the UPS system is in operation.

Failure to follow these instructions can result in equipment damage.

NOTICE

RISK OF EQUIPMENT DAMAGE

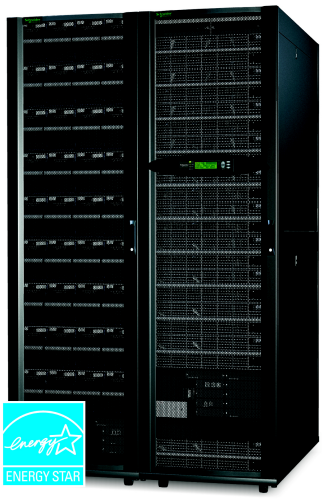
Do not connect the UPS output to regenerative load systems including photovoltaic systems and speed drives.

Failure to follow these instructions can result in equipment damage.

Technical Data

Model List

- Symmetra PX 10 kW Scalable to 100 kW, 208 V with Startup
- Symmetra PX 20 kW Scalable to 100 kW, 208 V with Startup
- Symmetra PX 30 kW Scalable to 100 kW, 208 V with Startup
- Symmetra PX 40 kW Scalable to 100 kW, 208 V with Startup
- Symmetra PX 50 kW Scalable to 100 kW, 208 V with Startup
- Symmetra PX 60 kW Scalable to 100 kW, 208 V with Startup
- Symmetra PX 70 kW Scalable to 100 kW, 208 V with Startup
- Symmetra PX 80 kW Scalable to 100 kW, 208 V with Startup
- Symmetra PX 90 kW Scalable to 100 kW, 208 V with Startup
- Symmetra PX 100 kW Scalable to 100 kW, 208 V with Startup



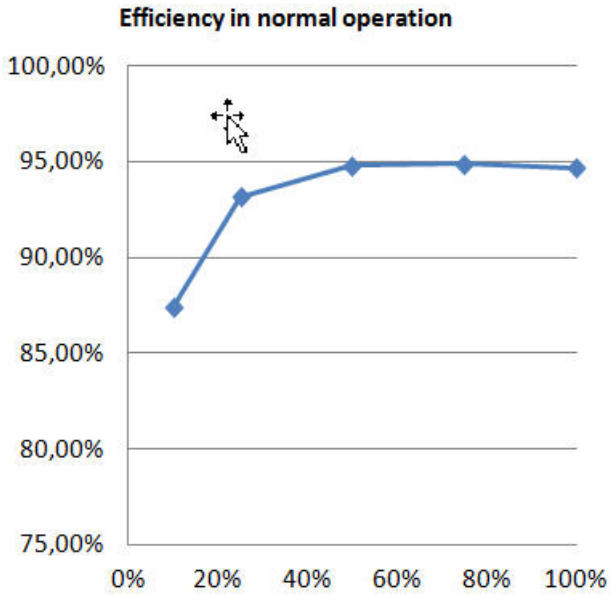
Input Power Factor

	Input Power Factor
> 25% load	> 0.99
> 15% load	> 0.95
> 10% load	> 0.90

Efficiency

	100 kW System
25% load	93.2
50% load	94.8
75% load	94.9
100% load	94.7

Efficiency Curve in Normal Operation and at Nominal Input Voltage



Derating due to Load Power Factor

The Symmetra PX 100 kW exhibits no derating due to leading or lagging load power factor.

Batteries

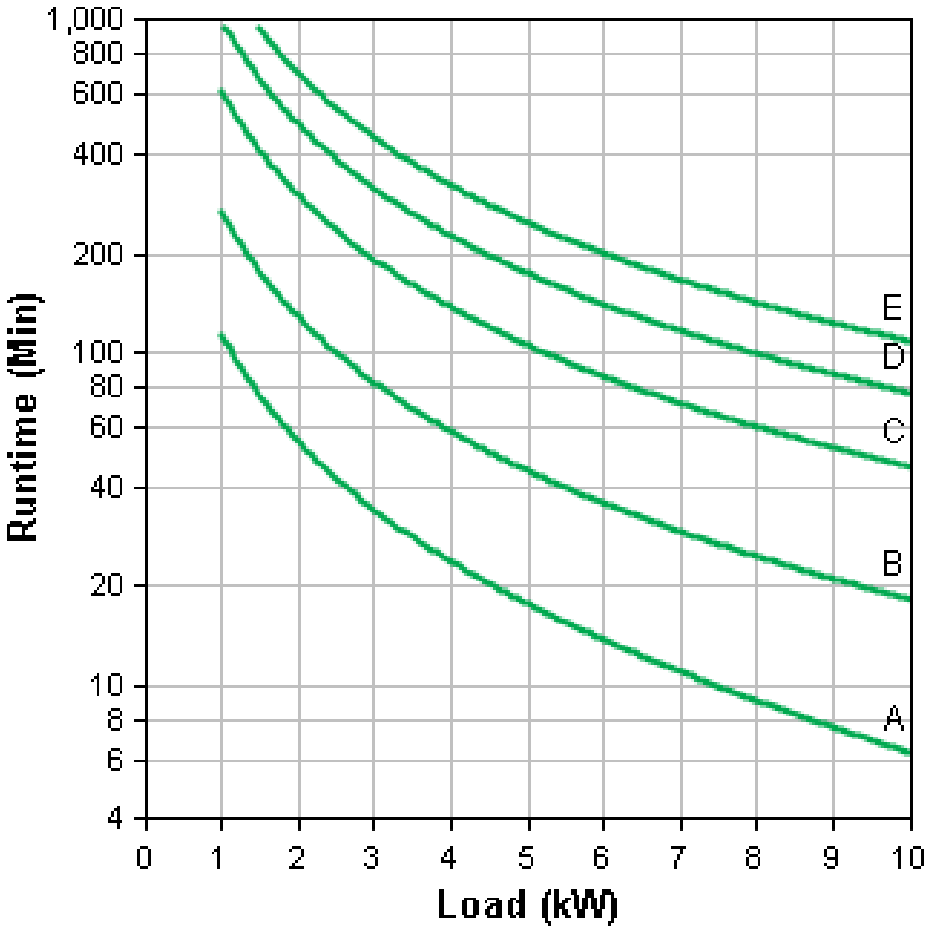
Efficiency DC to AC at Nominal Battery Voltage

	100 kW
25% - 50% load	≥ 93.2
50% - 100% load	≥ 94.7

Battery Run-Times — Schneider Electric Battery Solutions

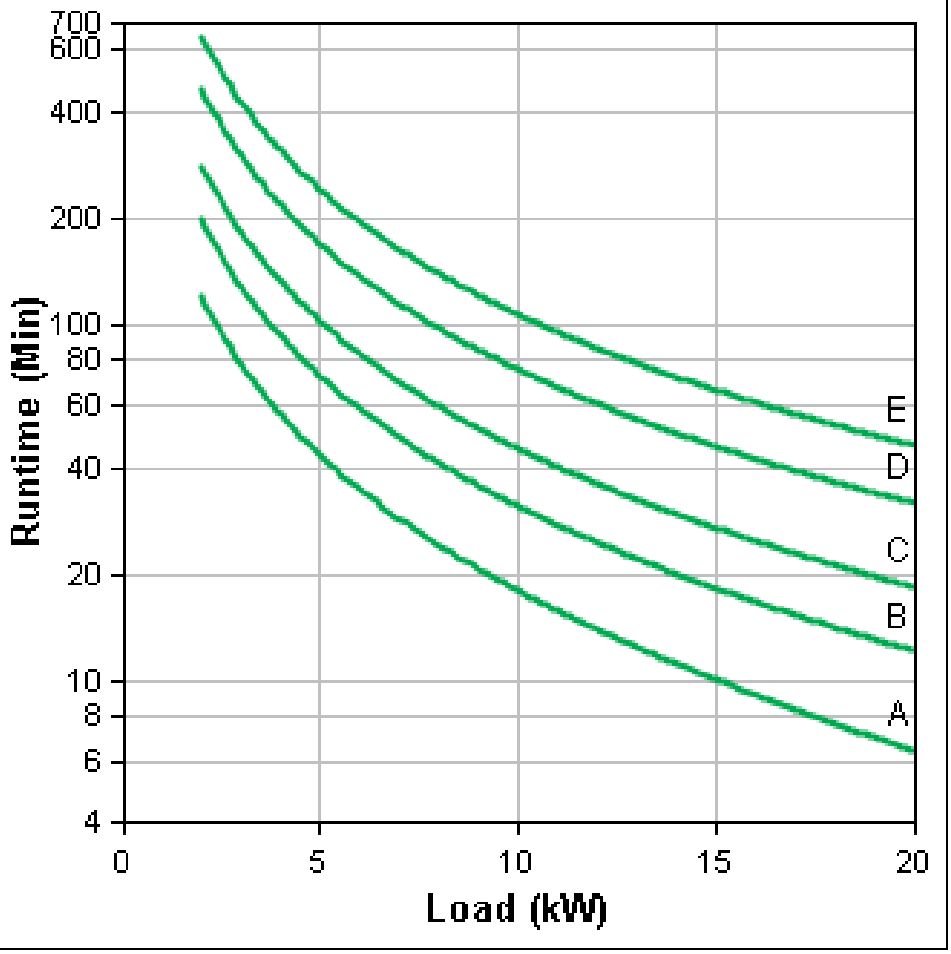
Symmetra PX 10 kW Scalable to 100 kW Battery Run-Times (Minutes)

Curve	Part Number(s)
A	SY10K100F
B	SY10K100F + (1) SYBT9–B4 or SYBT9–B4LL
C	SY10K100F + (3) SYBT9–B4 or SYBT9–B4LL
D	SY10K100F + (5) SYBT9–B4 or SYBT9–B4LL
E	SY10K100F + (7) SYBT9–B4 or SYBT9–B4LL



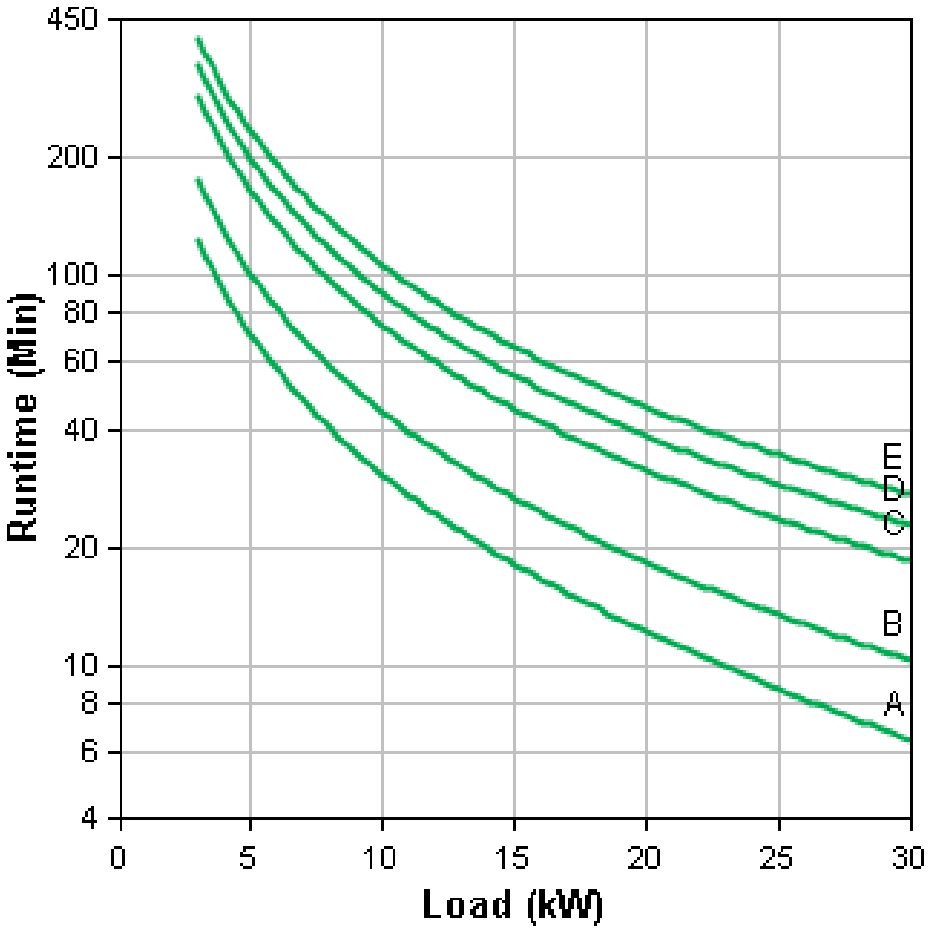
Symmetra PX 20 kW Scalable to 100 kW Battery Run-Times (Minutes)

Curve	Part Number(s)
A	SY20K100F
B	SY20K100F + (1) SYBT9–B4 or SYBT9–B4LL
C	SY20K100F + (2) SYBT9–B4 or SYBT9–B4LL
D	SY20K100F + (4) SYBT9–B4 or SYBT9–B4LL
E	SY20K100F + (6) SYBT9–B4 or SYBT9–B4LL



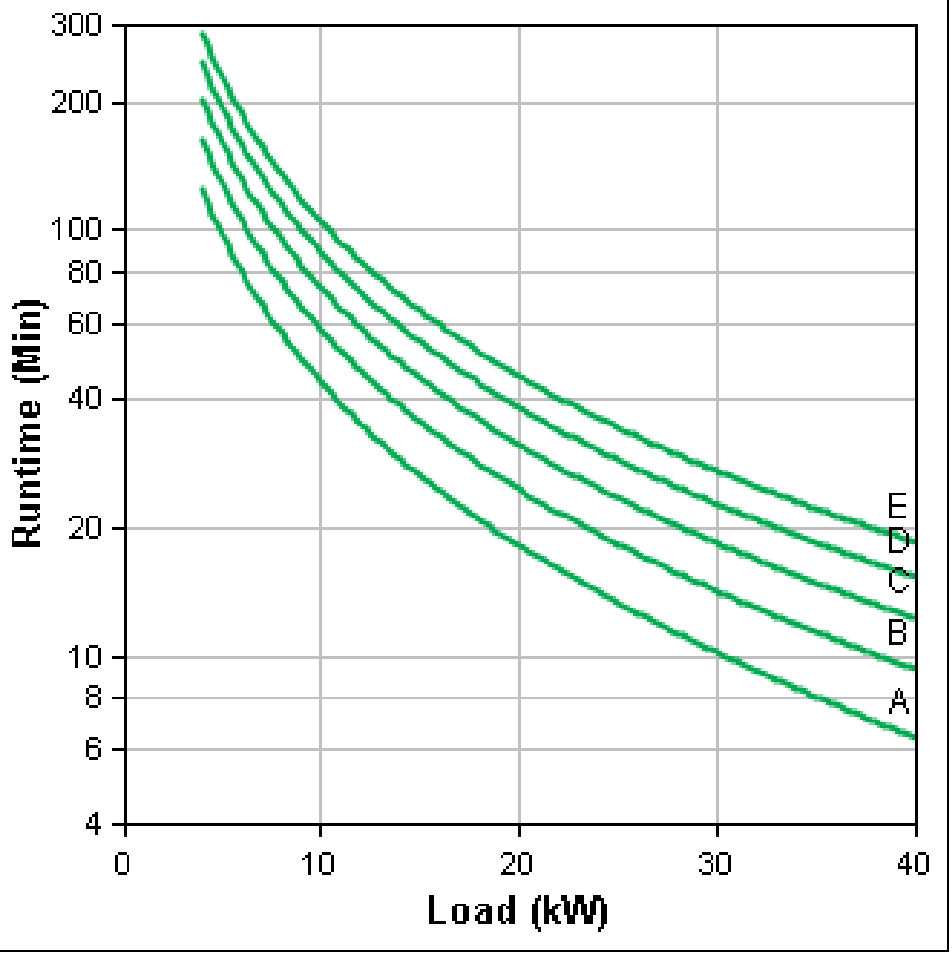
Symmetra PX 30 kW Scalable to 100 kW Battery Run-Times (Minutes)

Curve	Part Number(s)
A	SY30K100F
B	SY30K100F + (1) SYBT9–B4 or SYBT9–B4LL
C	SY30K100F + (3) SYBT9–B4 or SYBT9–B4LL
D	SY30K100F + (4) SYBT9–B4 or SYBT9–B4LL
E	SY30K100F + (5) SYBT9–B4 or SYBT9–B4LL



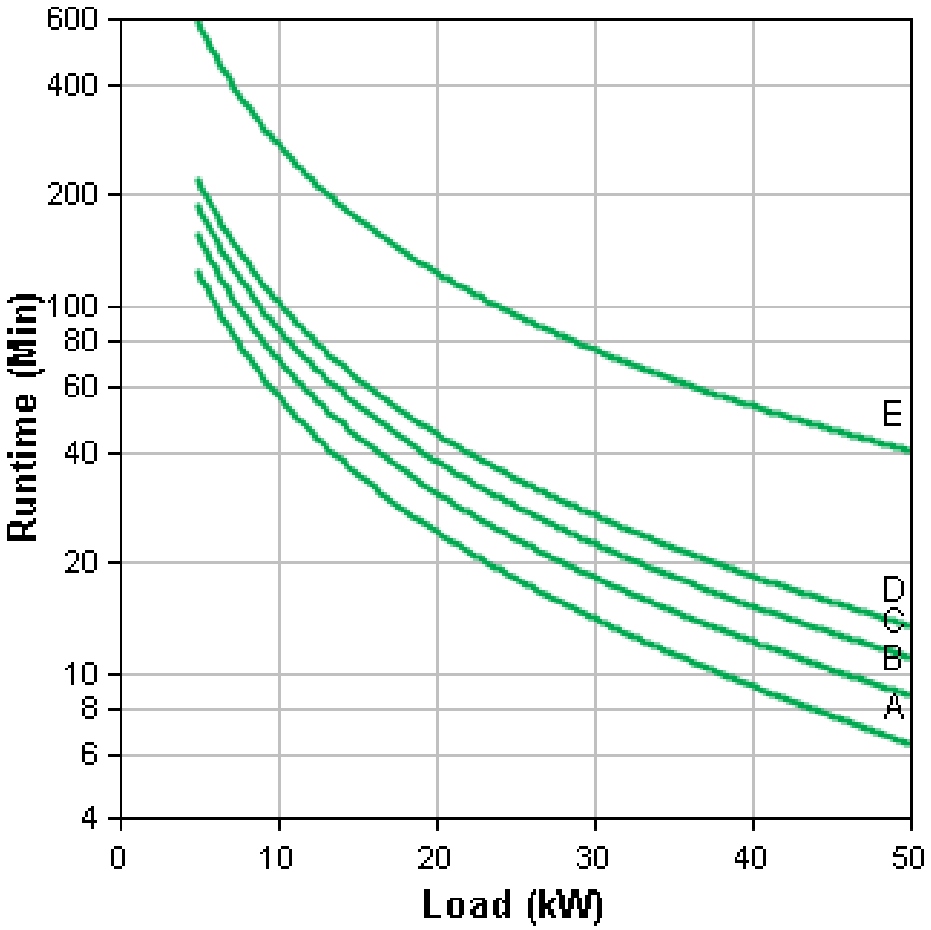
Symmetra PX 40 kW Scalable to 100 kW Battery Run-Times (Minutes)

Curve	Part Number(s)
A	SY40K100F
B	SY40K100F + (1) SYBT9–B4 or SYBT9–B4LL
C	SY40K100F + (2) SYBT9–B4 or SYBT9–B4LL
D	SY40K100F + (3) SYBT9–B4 or SYBT9–B4LL
E	SY40K100F + (3) SYBT9–B4 or SYBT9–B4LL



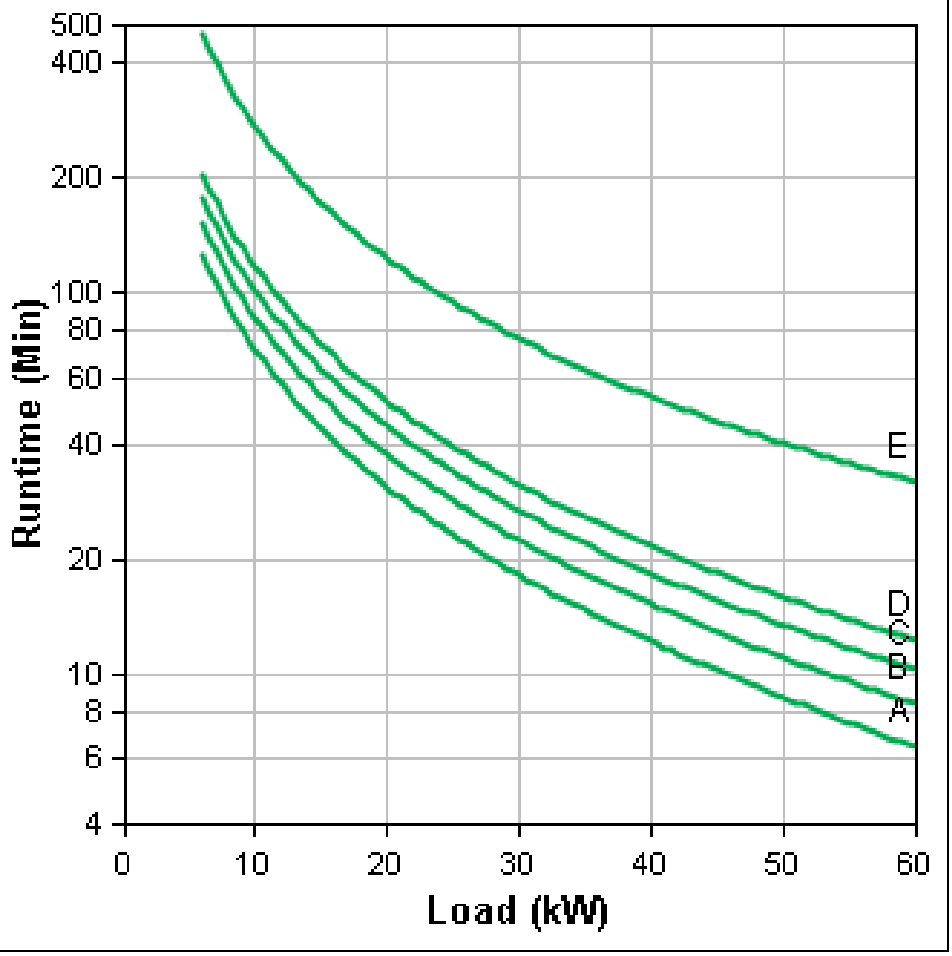
Symmetra PX 50 kW Scalable to 100 kW Battery Run-Times (Minutes)

Curve	Part Number(s)
A	SY50K100F
B	SY50K100F + (1) SYBT9–B4 or SYBT9–B4LL
C	SY50K100F + (2) SYBT9–B4 or SYBT9–B4LL
D	SY50K100F + (3) SYBT9–B4 or SYBT9–B4LL
E	SY50K100F + (1) SYCFXR9



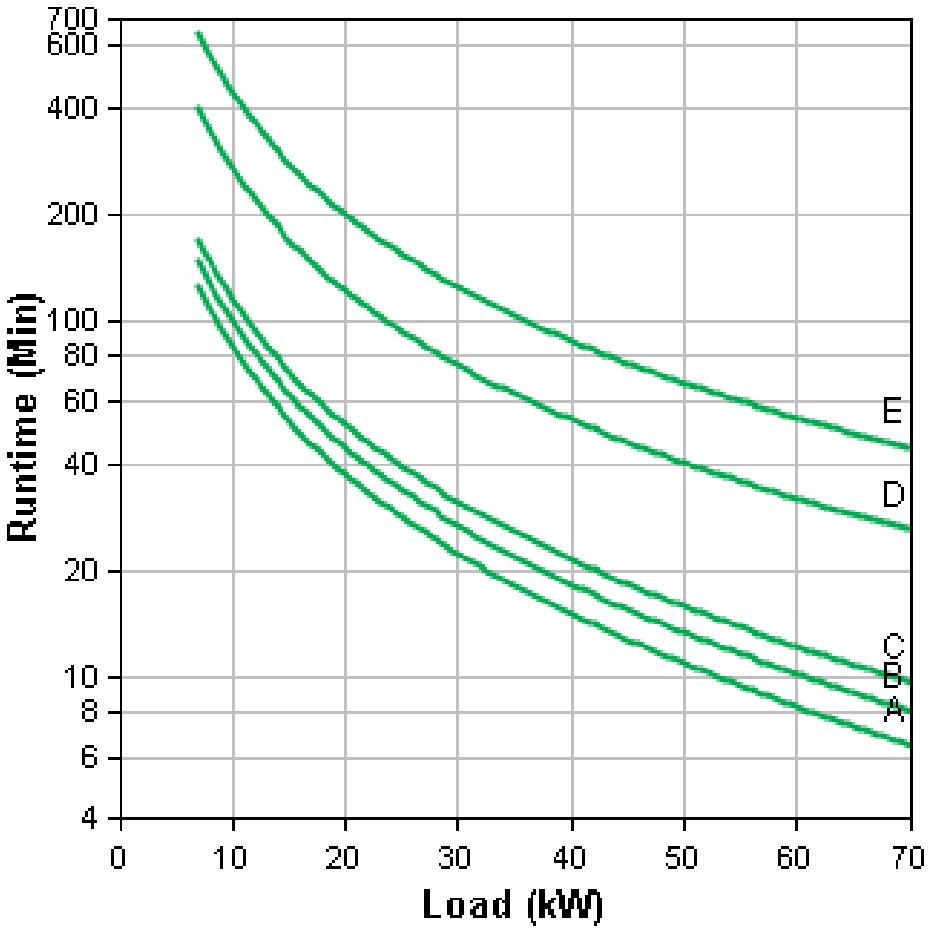
Symmetra PX 60 kW Scalable to 100 kW Battery Run-Times (Minutes)

Curve	Part Number(s)
A	SY60K100F
B	SY60K100F + (1) SYBT9–B4 or SYBT9–B4LL
C	SY60K100F + (2) SYBT9–B4 or SYBT9–B4LL
D	SY60K100F + (3) SYBT9–B4 or SYBT9–B4LL
E	SY60K100F + (1) SYCFXR9



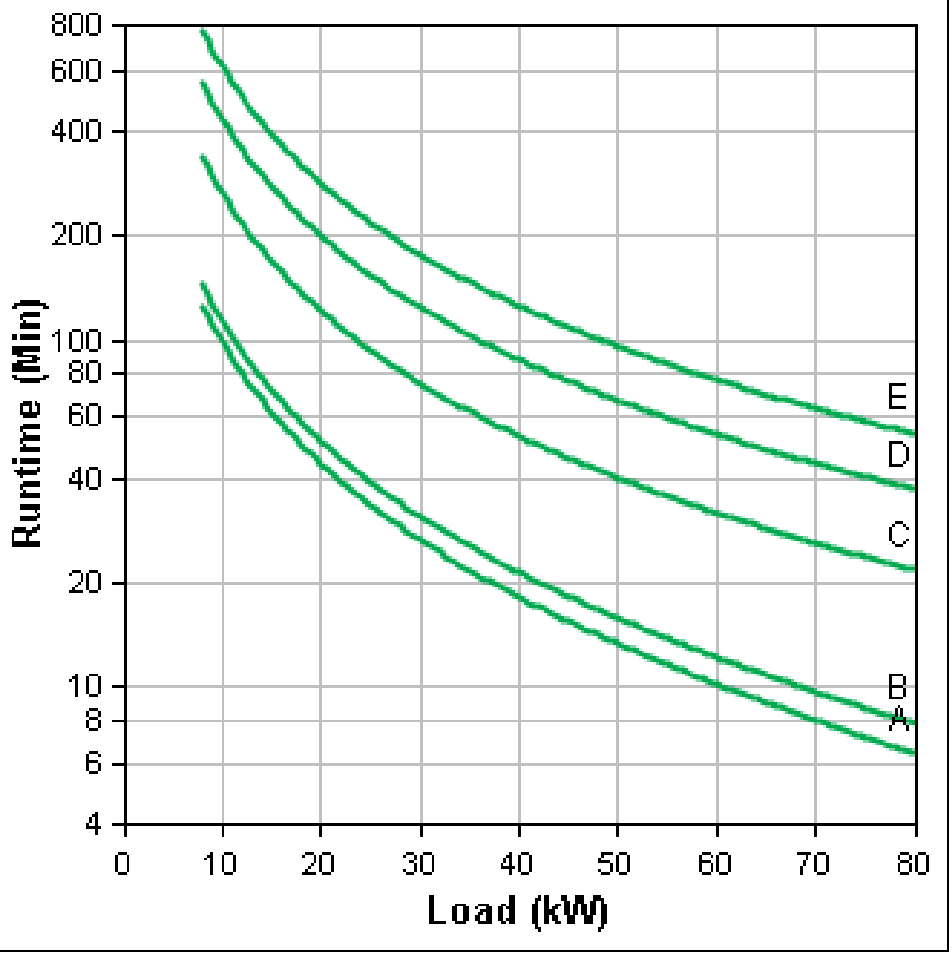
Symmetra PX 70 kW Scalable to 100 kW Battery Run-Times (Minutes)

Curve	Part Number(s)
A	SY70K100F
B	SY70K100F + (1) SYBT9–B4 or SYBT9–B4LL
C	SY70K100F + (2) SYBT9–B4 or SYBT9–B4LL
D	SY70K100F + (1) SYCFXR9
E	SY70K100F + (2) SYCFXR9



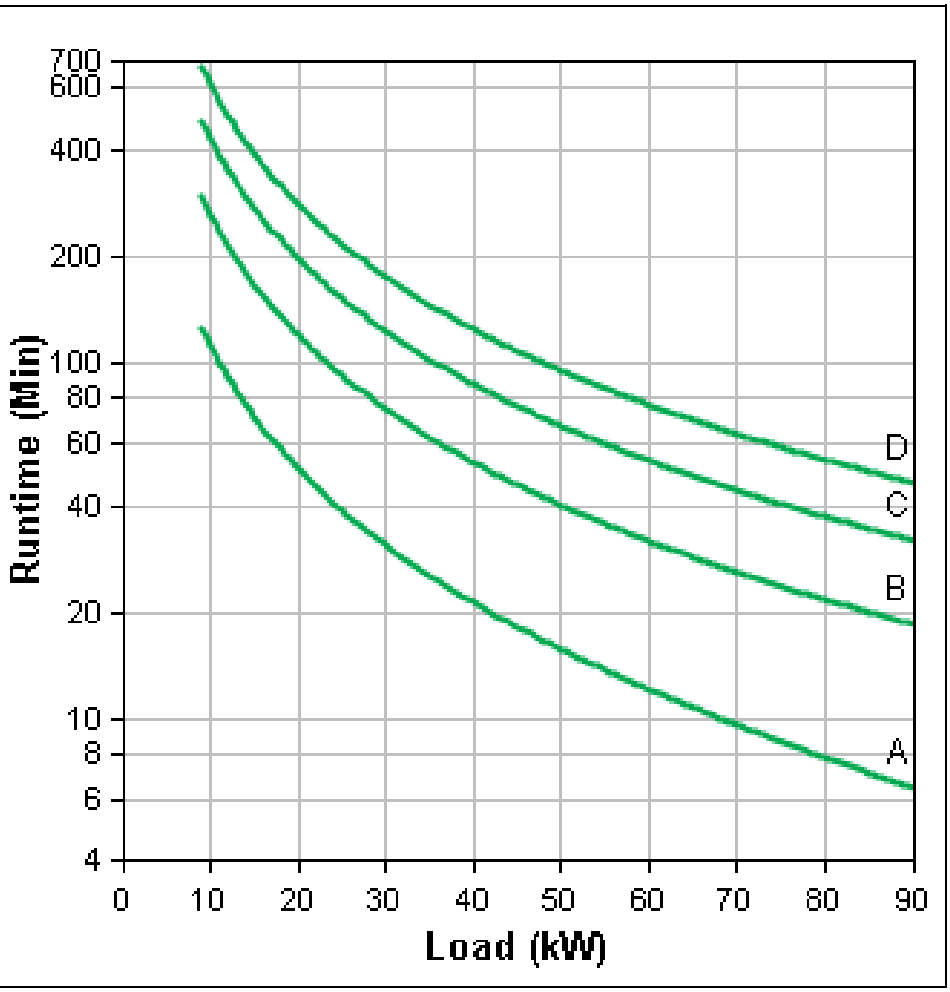
Symmetra PX 80 kW Scalable to 100 kW Battery Run-Times (Minutes)

Curve	Part Number(s)
A	SY80K100F
B	SY80K100F + (1) SYBT9–B4 or SYBT9–B4LL
C	SY80K100F + (1) SYCFXR9
D	SY80K100F + (2) SYCFXR9
E	SY80K100F + (3) SYCFXR9



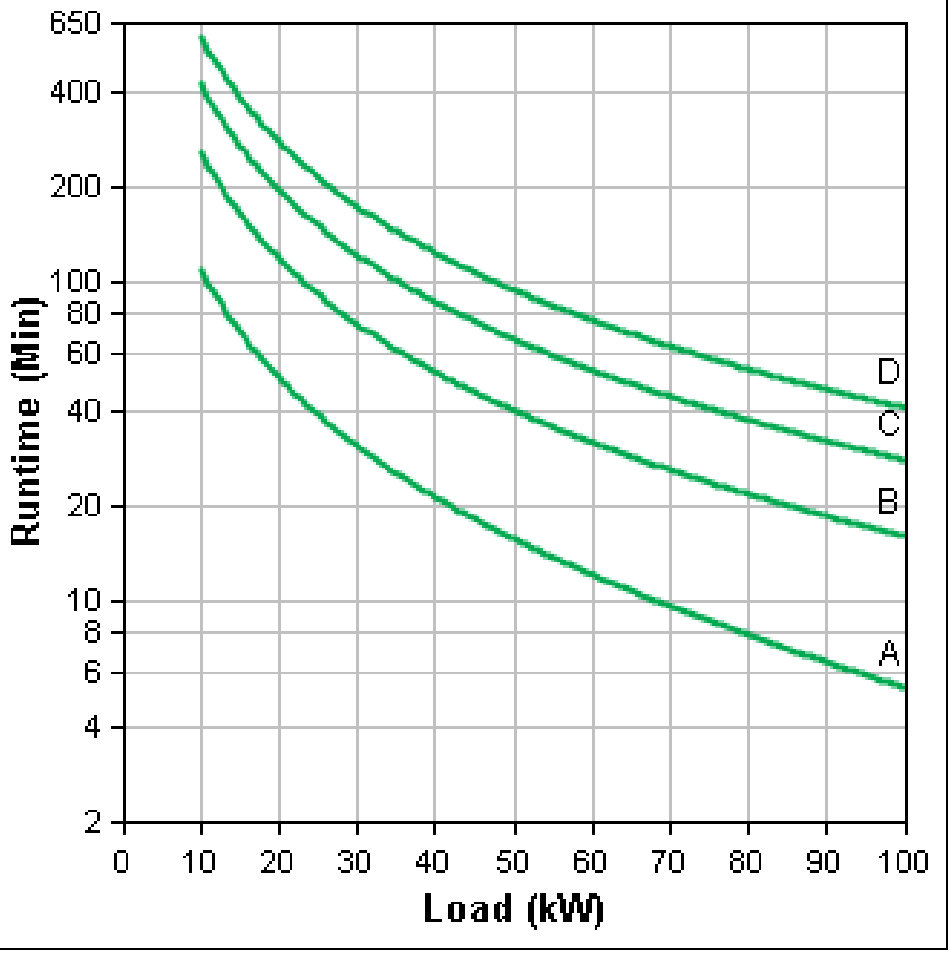
Symmetra PX 90 kW Scalable to 100 kW Battery Run-Times (Minutes)

Curve	Part Number(s)
A	SY90K100F
B	SY90K100F + (1) SYCFXR9
C	SY90K100F + (2) SYCFXR9
D	SY90K100F + (3) SYCFXR9



Symmetra PX 100 kW Battery Run-Times (Minutes)

Curve	Part Number(s)
A	SY100K100F
B	SY100K100F + (1) SYCFXR9
C	SY100K100F + (2) SYCFXR9
D	SY100K100F + (3) SYCFXR9



Battery Discharge Current

I bat at bat nominal, 100% load	275
I bat at bat min, 100% load	343

End of Discharge Voltage

End of discharge voltage at full load (VDC)	154
End of discharge voltage at no load (VDC)	168

Battery Gassing Rates Per Shelf/string (Cubic Feet per Hour)

The battery gassing rates are calculated based on:

- Gassing rate at 2.4 V/cell (ft^3/hr) assuming 98% recombination efficiency = 0.00021
- Six cells per cartridge
- Eight cartridges per battery unit
- Four battery units (one battery module) per shelf

Battery modules	1	2	3	4	5	6	7	8	9
	0.04032	0.08064	0.12096	0.16128	0.20160	0.24192	0.28224	0.32256	0.36288

Electrolyte Values

	Battery unit	String of batteries (4 battery units)
Electrolyte volume L (gal)	2.78 (0.61)	11.14 (2.45)
Electrolyte weight kg (lbs)	3.62 (7.98)	14.46 (31.90)
Sulfuric acid weight kg (lbs)	1.43 (3.16)	5.73 (12.6)

Battery Material Safety Data Sheet

NOTE: For Material Safety Data Sheet (MSDS), go to the Knowledge Base *http://schneider-electric.com/sites/corporate/en/support/faq/faq_main.page* and type “MSDS” to get the latest MSDS information.

Compliance

Safety	UL1778 4th Edition
EMC/EMI/RFI	FCC47 Part 15
Markings	CE, UL1778
Performance	EN/IEC62040–3
Seismic pre-approval	OSHPD

Facility Planning

Specifications for Installations without PDU

Input Specifications

NOTE: Delta input is not permitted.

	208 V UPS only
Connection type, single feed	3PH + N + G
Connection type, dual feed	Input: 3PH +G Bypass: 3PH + N + G
Input frequency (Hz)	50 or 60
Input frequency range (Hz)	40–70 with 10 Hz/sec slew rate
Nominal input current (A)[1]	296
Maximum input current at low charge rate – 10% (A)[2]	327
Maximum input current at high charge rate – 20% (A)[2]	332
Input current limit (A)[3]	360
Nominal bypass input current (A)	278
Total harmonic distortion (THDI)	< 5% at full load (symmetrical)
Maximum short circuit level Icc (kA)	Rated conditional short–circuit current Icc: 30 kA. Rated peak withstand current Ipk: Icc x 1.7. Device: Refer to *Required Upstream and Downstream Protection, page 21*.

Output Specifications

	208 V UPS only
Connection type	3PH + N + G or 3PH + G
Nominal output current (A)	278

Required Upstream and Downstream Protection

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

Connect only to a circuit provided with (see below) amperes maximum branch circuit overcurrent protection in accordance with the National Electric Code, NSI/NFPA 70.

Failure to follow these instructions will result in death or serious injury.

1. Input current based on nominal voltage and rated load, batteries fully charged.
2. Input current based on full battery recharge, nominal voltage and rated load.
3. Current limitation through electronic current limiting is based on full rated load and limited battery recharge from -10% to -15% input voltage.

Input and Bypass

	208 V UPS only	
	Input	**Bypass[4]**
Schneider Electric Breaker	PowerPact LJF34600WU33X	PowerPact LJF34600WU33X
Trip setting (A)	80%	80%
Ir (A)	450	350
Isd (x Ir)[5]	1.5–10	1.5–10
Ii (x In)[5]	1.5–11	1.5–11

Battery and Output

	208 V UPS only	
	Standard rated (80%)	**100% rated**
Battery (A)	350	300
Output (A)	350	300

Recommended Conductor Sizes

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

The product must be installed according to the specifications and requirements as defined by Schneider Electric. It concerns in particular the external and internal protections (upstream circuit breakers, battery circuit breakers, cabling, etc.) and environmental requirements. No responsibility is assumed by Schneider Electric if these requirements are not respected.

Failure to follow these instructions will result in death or serious injury.

NOTE: Maximum allowable conductor size: 500 kcmil.

Conductor sizing in this manual is based on Table 310-16 of the National Electrical Code (NEC) with the following assertions.

- 90 °C conductors (THHN) for 75 °C termination
- 3 current carrying conductors
- An ambient temperature of 30 °C
- Use only copper conductors

If the ambient room temperature is greater than 30 °C, larger conductors are to be selected in accordance with the correction factors of the NEC.

Equipment Grounding Conductors (EGC) are sized in accordance with NEC Article 250-122 and Table 250-122.

The conductor sizes are recommendations for maximum configurations. Even if the load is less than the maximum rating, it is wise to plan for future load increases. If the system is operated at a lower load than its rating and it is desired to supply the system with a lower rated breaker and smaller conductors, conductor ampacities are to be selected in accordance with the NEC.

	208 V UPS only	
	Standard rated (80%)	**100% rated**
Input	2 x 4/0 AWG	500 kcmil
Bypass	500 kcmil	300 kcmil

4. Only applicable to dual mains systems.
5. Isd and Ii must be set by the installer based on the installation coordination

	208 V UPS only	
	Standard rated (80%)	**100% rated**
Battery	500 kcmil	300 kcmil
Output	500 kcmil	300 kcmil
Equipment Grounding Conductor	3 AWG	3 AWG

Recommended Bolt and Lug Sizes

Cable	**Terminal Bolt Diameter**	**Cable Lug Type**		**Crimping tool CT-720 Crimping Die:**	
		80% rated	**100% rated**	**80% rated**	**100% rated**
Input	M10	LCA4/0-12H-X	LCA500-12H-X	CD-720-3	CD-720-7
Bypass	M10	LCA500–12H-X	LCA300-12H-X	CD-720-7	CD-720-4
Battery 1	M10	–	LCA300-12H-X	–	CD-720-4
Battery 2	M10	–	LCA300-12H-X	–	CD-720-4
Output	M10	LCA500-12H-X	LCA300-12H-X	CD-720-7	CD-720-4

Specifications for Installations with PDU or Maintenance Bypass Cabinet

Input Specifications

	208 V : 208 V	**480 V : 208 V**	**600 V : 208 V**	**Maintenance Bypass Cabinet or PDU without Transformer**
Connection type	3PH + G + GEC			L1 + L2 + L3 + N +G
Nominal input frequency (Hz)	57-63			40-70
Nominal input current (A)[6]	302	131	104	297
Maximum input current at low charge rate – 10% (A)[7]	332	144	115	327
Maximum input current at high charge rate – 20% (A)[7]	337	146	117	332
Input current limit (A)[8]	366	165	127	360
Nominal bypass input current (A)	282	122	98	278
Maximum short circuit withstand (kA)[9]	65	65	25	30

6. Input current based on nominal voltage and rated load, batteries fully charged.
7. Input current based on full battery recharge, nominal voltage and rated load.
8. Current limitation through electronic current limiting is based on full rated load and limited battery recharge from -10% to -15% input voltage.
9. The maximum available fault current was not evaluated by Underwriters Laboratories.

Output Specifications

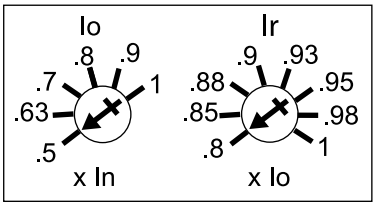
	208 V : 208 V	480 V : 208 V	600 V : 208 V	Maintenance Bypass Cabinet or PDU without Transformer
Connection type	4-wire (3PH + N + G) or 3-wire (3PH + G)			
Output voltage	3 x 208/120 V			
Nominal output current (A)	278	278	278	278
Power distribution modules (not included)	20 A, 30 A, 50 A, 60 A			
Subfeed	278 A maximum (included) see following table			

PDU Subfeed Circuit Breaker Trip Currents Merlin Gerin NSJ400 - STR23SP Electronic Trip Unit (400 A frame)

NOTE: This breaker is 100% rated.

Io Setting	Ir Setting							
	1	**0.98**	**0.95**	**0.93**	**0.90**	**0.88**	**0.85**	**0.8**
0.9	NA	NA	NA	NA	NA	NA	NA	288
0.8	NA	NA	NA	297.6[10]	288	281.6	272	256
0.7	280	274.4	266	260.4	252	246.4	238	224
0.63	252	247	239.4	234.4	226.8	221.8	214.2	201.6
0.5	200	196	190	186	180	176	170	160

Long-time (LT) overload protection = In x Io x Ir- Example: 400 x 0.5 x 0.8=160 A. See NEC-2008 Art. 240.6 (C) for additional information.



L-Frame with Micrologic 3.3 S Trip Unit (Subfeed Breaker)

NOTE: This breaker is 100% rated.

NOTE: The maximum subfeed output loading must not be greater than 278 A per phase.

In = 400 A		Value depending on sensor rating (In) and setting on rotary switch								
L Long time protection										
Pick-up (A) Tripping between 1.05 and 1.20 I_n	Ir =	125	150	175	200	225	250	300	N/A	N/A
S Short time protection										
Pick-up (A) accuracy ± 10%	Isd = Ir x...	1.5	2	3	4	5	6	7	8	10
I Instantaneous										
Pick-up (A) accuracy ± 15%	Ii = In x...	1.5	2	3	4	5	6	8	10	12

10. Factory default: 400 x0.93 x 0.8 = 297.6 A or ˜ 300 A. The maximum Subfeed Output Loading must not be greater than 278 A per phase.

L-Frame with Micrologic 3.3 S Trip Unit (QB 600 V Canadian unit)

NOTE: This breaker is 100% rated.

In = 250 A		Value depending on sensor rating (In) and setting on rotary switch								
L Long time protection										
Pick-up (A) Tripping between 1.05 and 1.20 In	Ir =	70	80	100	125	150	175	200	225	250
S Short time protection										
Pick-up (A) accuracy ±10%	Isd = Ir x ...	1.5	2	3	4	5	6	7	8	10
I Instantaneous										
Pick-up (A) accuracy ±15%	Ii = In x ...	1.5	2	3	4	5	6	8	10	12

L-Frame Mission Critical with Micrologic 3.3 S-W 600 A Trip Unit

NOTE: This breaker is 80% rated.

In=600 A										
S short time protection										
Pick-up (A) accuracy ± 10%	Isd = Ir x...	1.5	2	3	4	5	6	7	8	10
I Instantaneous										
Pick-up (A) accuracy ± 15%	Ii = In x...	1.5	2	3	4	5	6	8	10	11

L-Frame Mission Critical with Micrologic 3.3 S-W 400 A Trip Unit

NOTE: This breaker is 80% rated.

In=400 A										
S short time protection										
Pick-up (A) accuracy ± 10%	Isd = Ir x...	1.5	2	3	4	5	6	7	8	10
I Instantaneous										
Pick-up (A) accuracy ± 15%	Ii = In x...	1.5	2	3	4	5	6	8	10	12

Recommended Current Rating of Supply OCPD

	208 V : 208 V	**480 V : 208 V**	**600 V : 208 V**	**Maintenance bypass cabinet or PDU without transformer**
	Standard rated[11]			
Input (A)	500	225	175	450

Inrush Currents

The supply overcurrent protective device must be able to handle the below transformer inrush currents.

11. Standard circuit breakers are rated to carry 80% of their current rating continuously.

	208 V : 208 V	480 V : 208 V	600 V : 208 V
Inrush current (A)	4500	2000	1500

Recommended Conductor Sizes

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

The product must be installed according to the specifications and requirements as defined by Schneider Electric. It concerns in particular the external and internal protections (upstream circuit breakers, battery circuit breakers, cabling, etc.) and environmental requirements. No responsibility is assumed by Schneider Electric if these requirements are not respected.

Failure to follow these instructions will result in death or serious injury.

NOTE: All wiring must comply with all applicable national and/or local electrical codes. Maximum allowable conductor size: 2 x 350 kcmil.

Conductor sizing in this manual is based on Table 310-16 of the 2008 National Electrical Code (NEC) with the following assertions:

- 90 °C conductors (THHN) for 75 °C termination
- 3 Current Carrying Conductors
- An ambient temperature of 30 °C

If the ambient room temperature is greater than 30 °C, larger conductors are to be selected in accordance with the correction factors of the NEC.

Equipment Grounding Conductors (EGC) are sized in accordance with NEC Article 250-122 and Table 250-122.

Grounding Electrode Conductors (GEC) are sized in accordance with NEC Article 250-66 and Table 250-66.

The conductor sizes are recommendations for maximum configurations. Even if the load is less than the maximum rating, Schneider Electric recommends to plan for future load increases. If the system is operated at a lower load than its rating and it is desired to supply the system with a lower rated breaker and smaller conductors, conductor capacities are to be selected in accordance with the NEC. The transformer inrush must be taken into account when sizing conductors.

		208 V : 208 V	480 V : 208 V	600 V : 208 V	Maintenance Bypass Cabinet or PDU without Transformer[12]
Input (phase and neutral)	Copper	2[13] x 4/0	4/0	2/0	2 x 4/0
	Aluminum	2[13] x 300 kcmil	300 kcmil	4/0	2 x 300 kcmil
Grounding Electrode Conductor (GEC)	Copper	2 AWG			NA
	Aluminum	1/0			NA
Equipment Grounding Conductor (EGC)	Copper	2 AWG	4 AWG	6 AWG	2 AWG
	Aluminum	1/0	2 AWG	4 AWG	1/0
Output	Supplied with power distribution modules except for maintenance bypass				
Subfeed output	Copper	(2) 2/0 Phase and Neutral, 4 AWG EGC, GEC not required[14]			
	Aluminum	(2) 4/0 Phase and Neutral, 2 AWG EGC, GEC not required[14]			

12. The PDU without a transformer requires a neutral and does not require GEC.
13. Two conductors per phase and neutral (when neutral is required)
14. Subfeed is required to have two conductors per phase and neutral for full output due to limited wire bend space.

Batteries

Battery Input	
Nominal voltage (VDC)	2 x 192
Connection	BAT+, CT, BAT-
Nominal battery discharge[15] (A)	276
Maximal battery discharge[16] (A)	344
End of discharge voltage	1.6-1.75 V/cell (automatic, depending on load)
Ah rating	Unlimited
Nominal output charge current (A)	52

Physical

Weights and Dimensions

Cabinets

Cabinet	Weight kg (lbs)	Height mm (in)	Width mm (in)	Depth mm (in)
100 kW UPS (SYCF100KF)	341 (752)	2011 (79.1)	600 (23.6)	1070 (42.1)
Modular battery cabinet (SYCFXR9 and SYCFXR48)	345 (760)	1996 (78.5)	600 (23.6)	1070 (42.1)
PDU (PDPM100F6F-M, PDPM100G6F-M, PDPM100L6F-M)	816 (1800)	2004 (78.8)	600 (23.6)	1070 (42.1)
PDU (PDPM100F-M)	408 (900)	2004 (78.8)	600 (23.6)	1070 (42.1)
Maintenance Bypass Panel (SYMBP100F, SYMBP160H)	169 (371)	2004 (78.8)	300 (11.8)	1070 (42.1)
Side Car for Bottom Cable Entry (PDPM100SC)	138 (305)	2004 (78.8)	300 (11.8)	1070 (42.1)

Battery and Power Modules

Module	Weight kg (lbs)	Height mm (in)	Width mm (in)	Depth mm (in)
Battery Unit (SYBTU2–PLP, SYBTU2-PLPLL)	25.2 (55.3)	159 (6.2)	107 (4.2)	700 (27.5)
Power Module — 208 V (SYPM10KF2)	25.1 (55.1)	132 (5.2)	483 (19)	700 (27.5)

15. Based on rated load and nominal battery voltage (2.0 V/cell)
16. Based on rated load at the end of the discharge (1.6 V/cell)

Shipping Weights and Dimensions

Cabinets

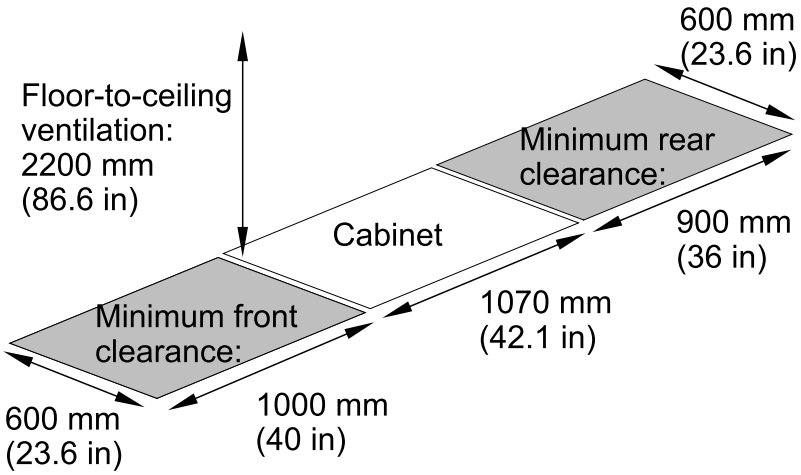
Cabinet	Weight kg (lbs)	Height mm (in)	Width mm (in)	Depth mm (in)
100 kW UPS (SYCF100KF)	386 (851)	2140 (84)	848 (33.3)	1210 (47.6)
Modular battery cabinet (SYCFXR9 and SYCFXR48)	379 (835)	2150 (84.6)	848 (33.3)	1210 (47.6)
PDU (PDPM100F6F-M, PDPM100G6F-M, PDPM100L6F-M)	862 (1900)	2150 (84.6)	1016 (40)	1210 (47.6)
PDU (PDPM100F-M)	454 (1000)	2150 (84.6)	1016 (40)	1210 (47.6)
Maintenance Bypass Panel (SYMBP100F, SYMBP160H)	189 (416)	2150 (84.6)	848 (33.3)	1210 (47.6)
Side Car for Bottom Cable Entry (PDPM100SC)	159 (350)	2150 (84.6)	848 (33.3)	1210 (47.6)

Modules

Cabinet	Weight kg (lbs)	Height mm (in)	Width mm (in)	Depth mm (in)
Battery Unit (SYBTU2–PLP, SYBTU2-PLPLL)	27 (59.2)	180 (7)	150 (5.9)	810 (31.89)
Power Module — 208 V (SYPM10KF2)	28.45 (61.7)	225 (8.8)	595 (23.4)	795 (31.3)

Clearance Symmetra PX 100 kW

NOTE: Clearance dimensions are published for airflow and service access only. Consult with the local safety codes and standards for additional requirements in your local area.



Environmental

Operating environment	0–40 °C (32–104 °F)
Operating relative humidity	0–95%, non-condensing
Operating elevation without derating	0–999.9 meters (0–3333 feet)
Storage temperature	–15–40 °C (5–104 °F)
Storage relative humidity	0–95%, non-condensing
Storage elevation	0–15000 meters (0–50000 feet)
Audible noise at 1 meter from surface of unit - at 100% load - at 70% load	 67 dBA 60 dBA
UPS air flow at 0–100% load	162 CFM
Protection class	NEMA 1
Colour	Black

Heat Dissipation

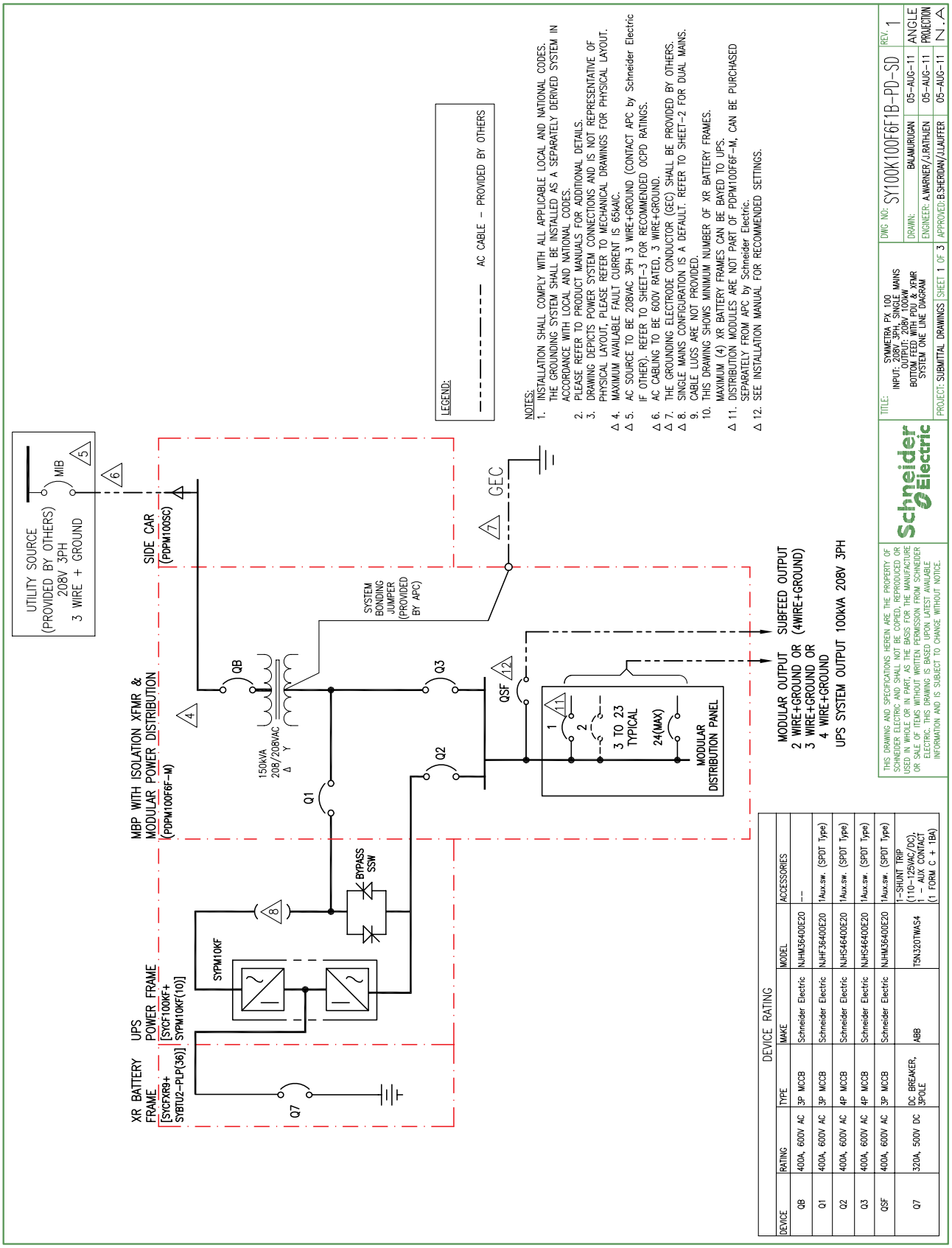
	Without PDU	**With PDU**			
	208 V	**208 V: 208 V**	**480 V: 208 V**	**600 V: 208 V**	**208 V no transformer**
Heat dissipation at 100% load and charging batteries (BTU/hr)	22,687	34,572	34,231	32,525	28,771

Drawings

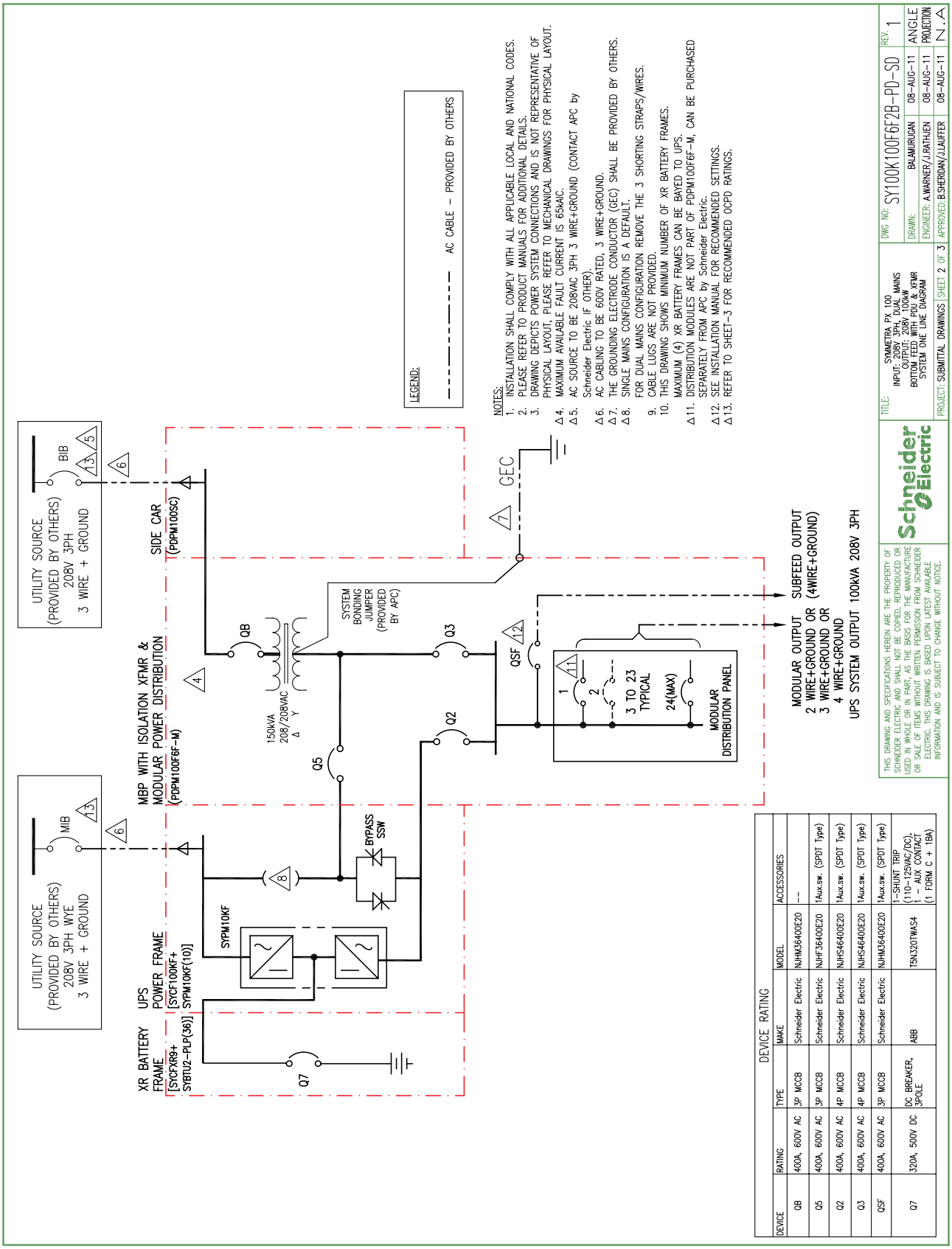
NOTE: A comprehensive set of drawings is available on the engineering website at engineer.apc.com.

NOTE: These drawings are for reference ONLY — subject to change without notice.

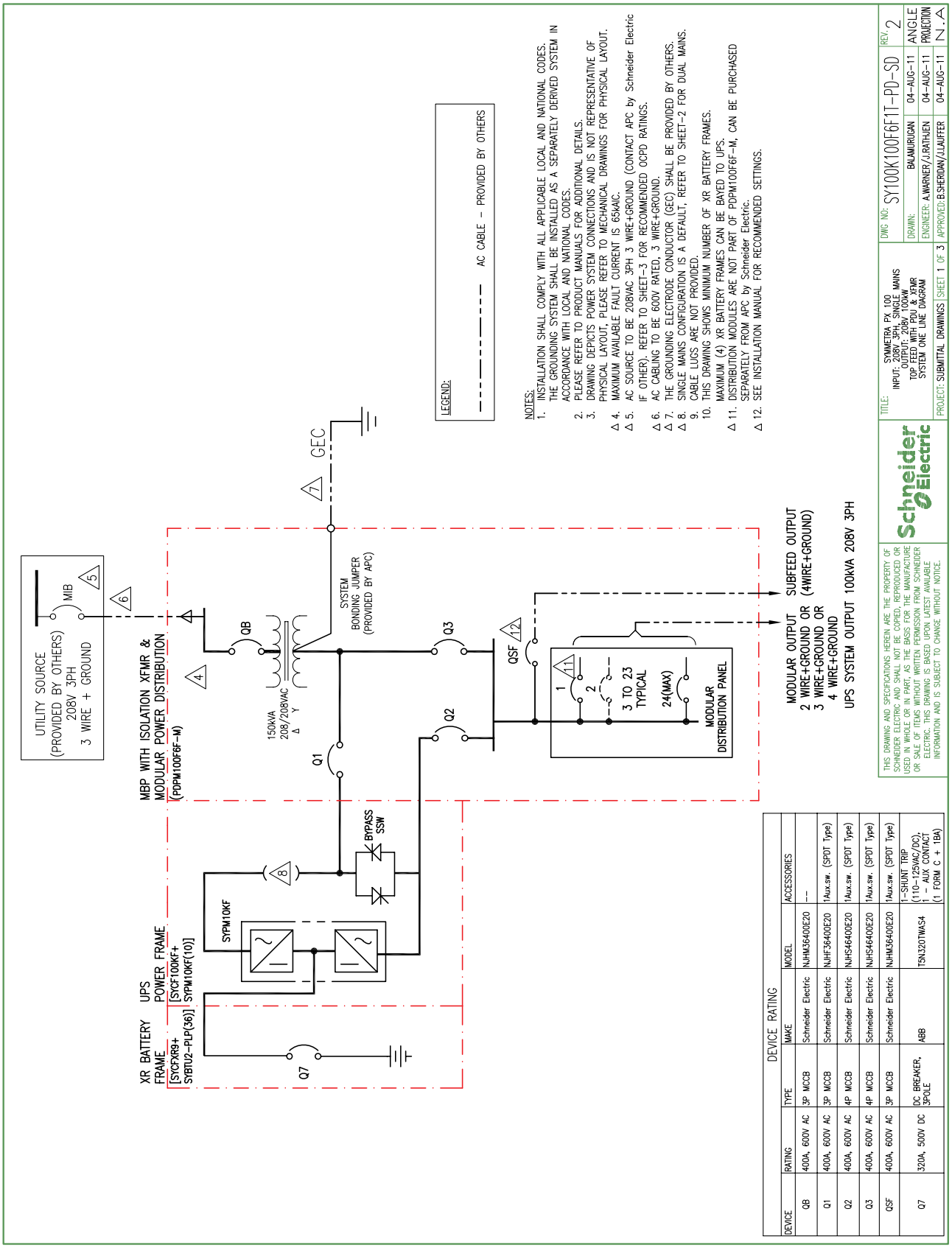
Symmetra PX 100 kW 208 V Single Mains Bottom Feed with PDU with Transformer



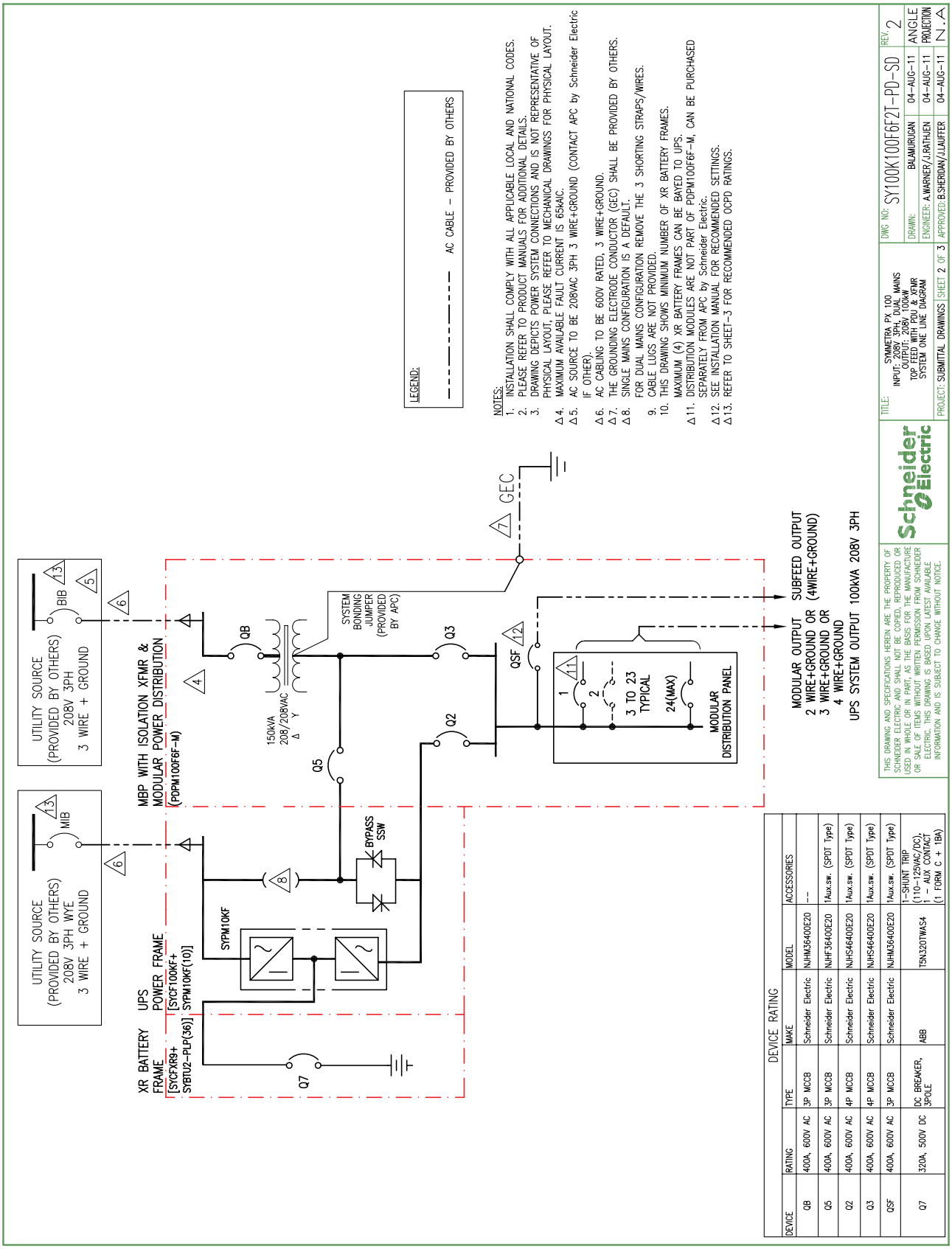
Symmetra PX 100 kW 208 V Dual Mains Bottom Feed with PDU with Transformer



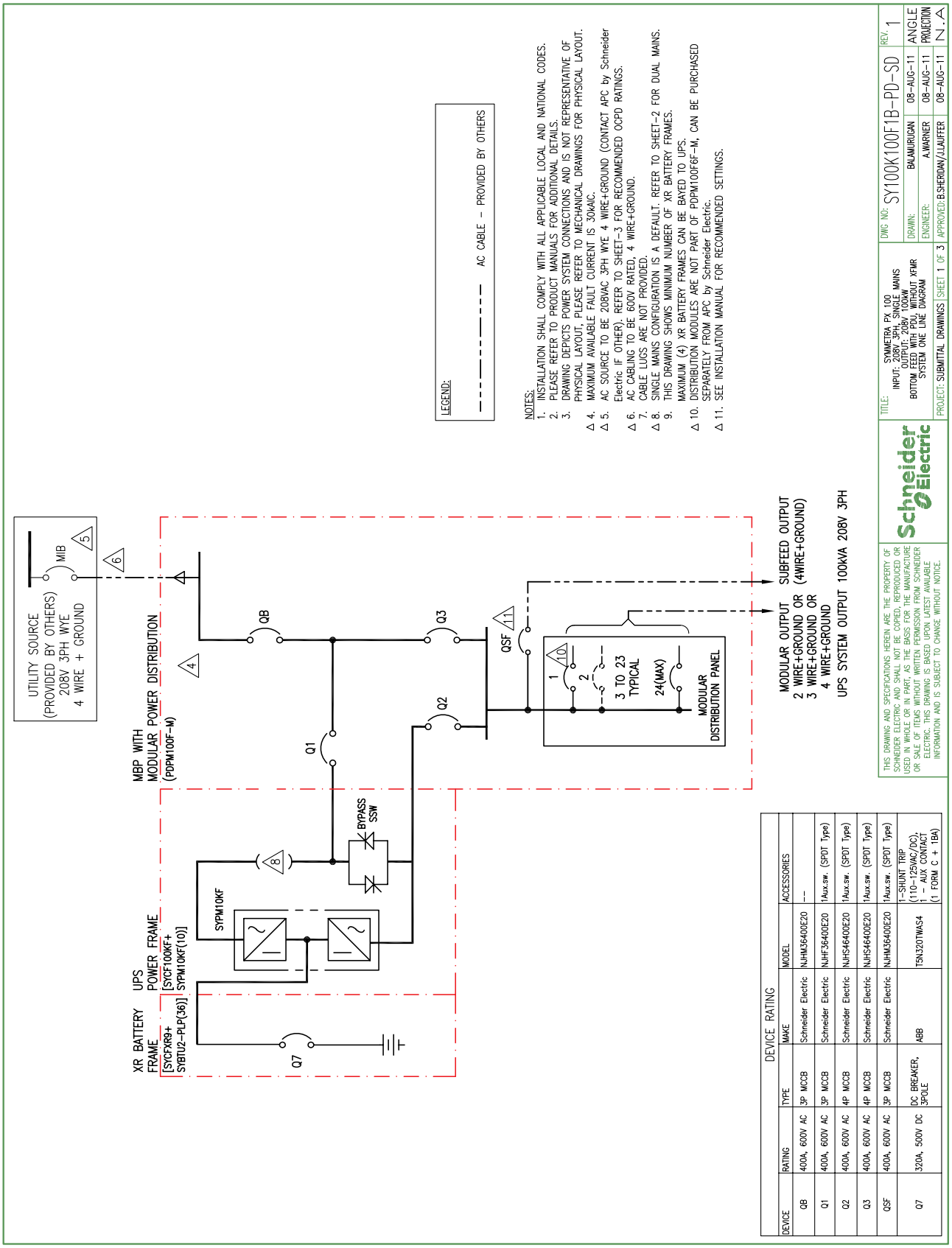
Symmetra PX 100 kW 208 V Single Mains Top Feed with PDU with Transformer



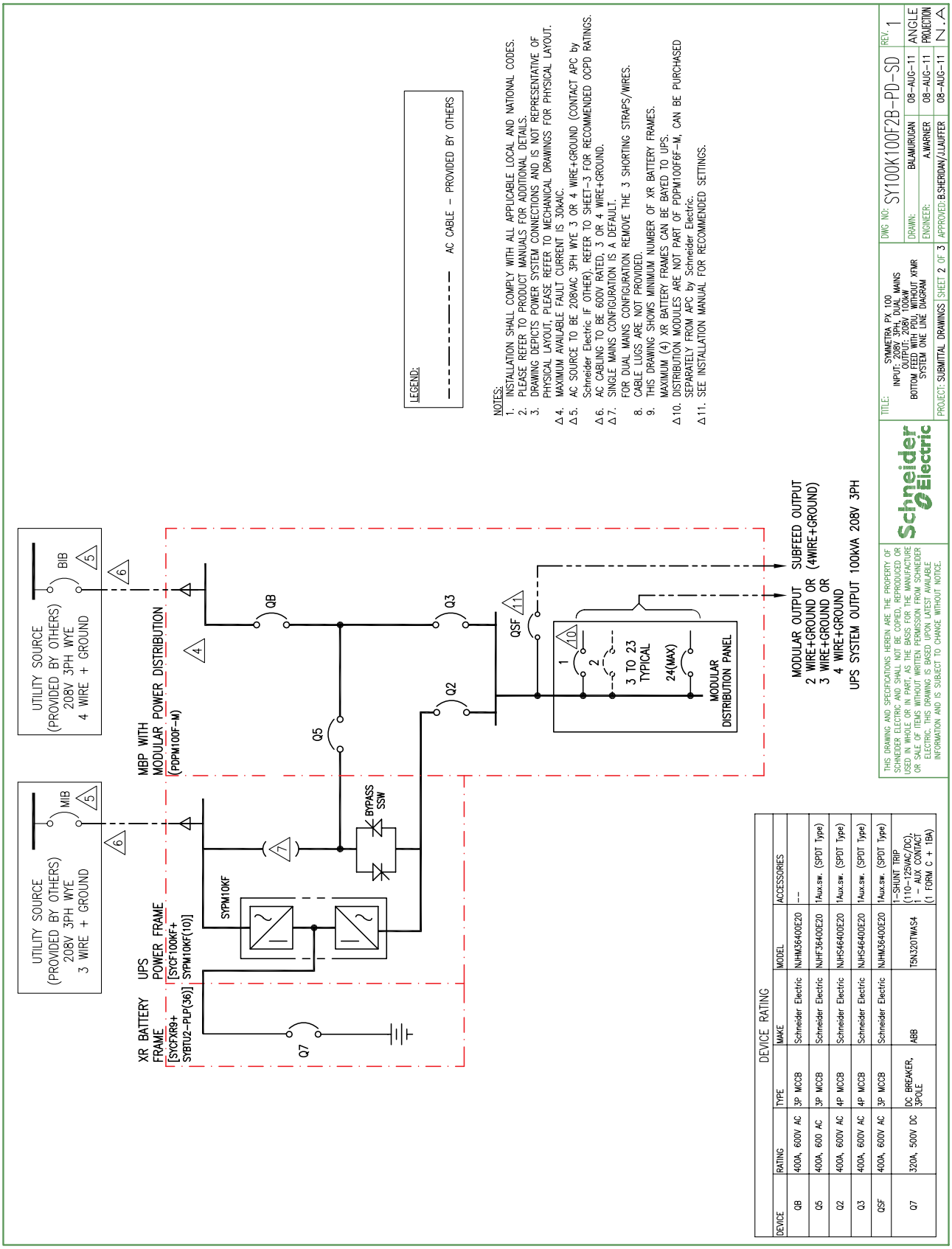
Symmetra PX 100 kW 208 V Dual Mains Top Feed with PDU with Transformer



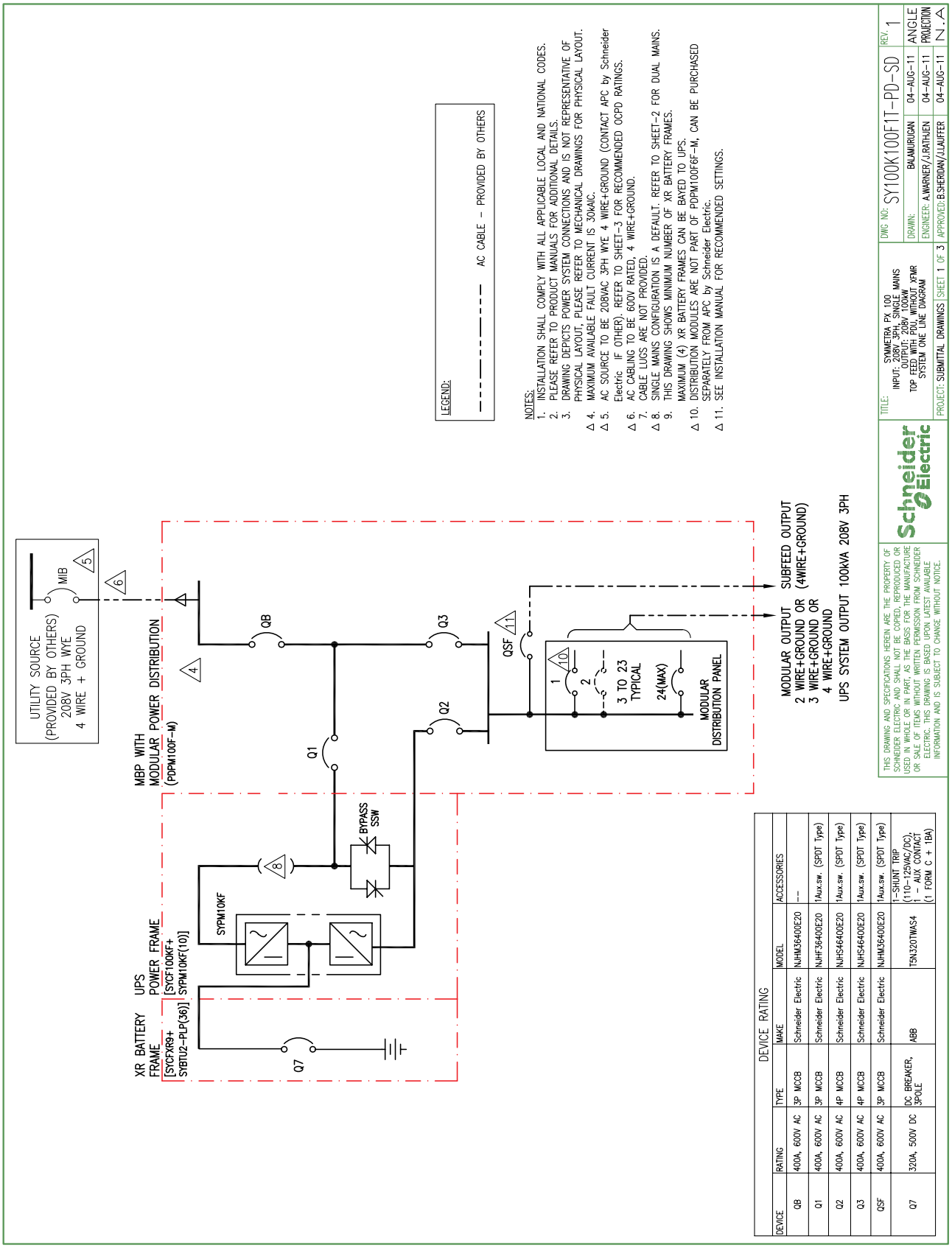
Symmetra PX 100 kW 208 V Single Mains Bottom Feed with PDU without Transformer



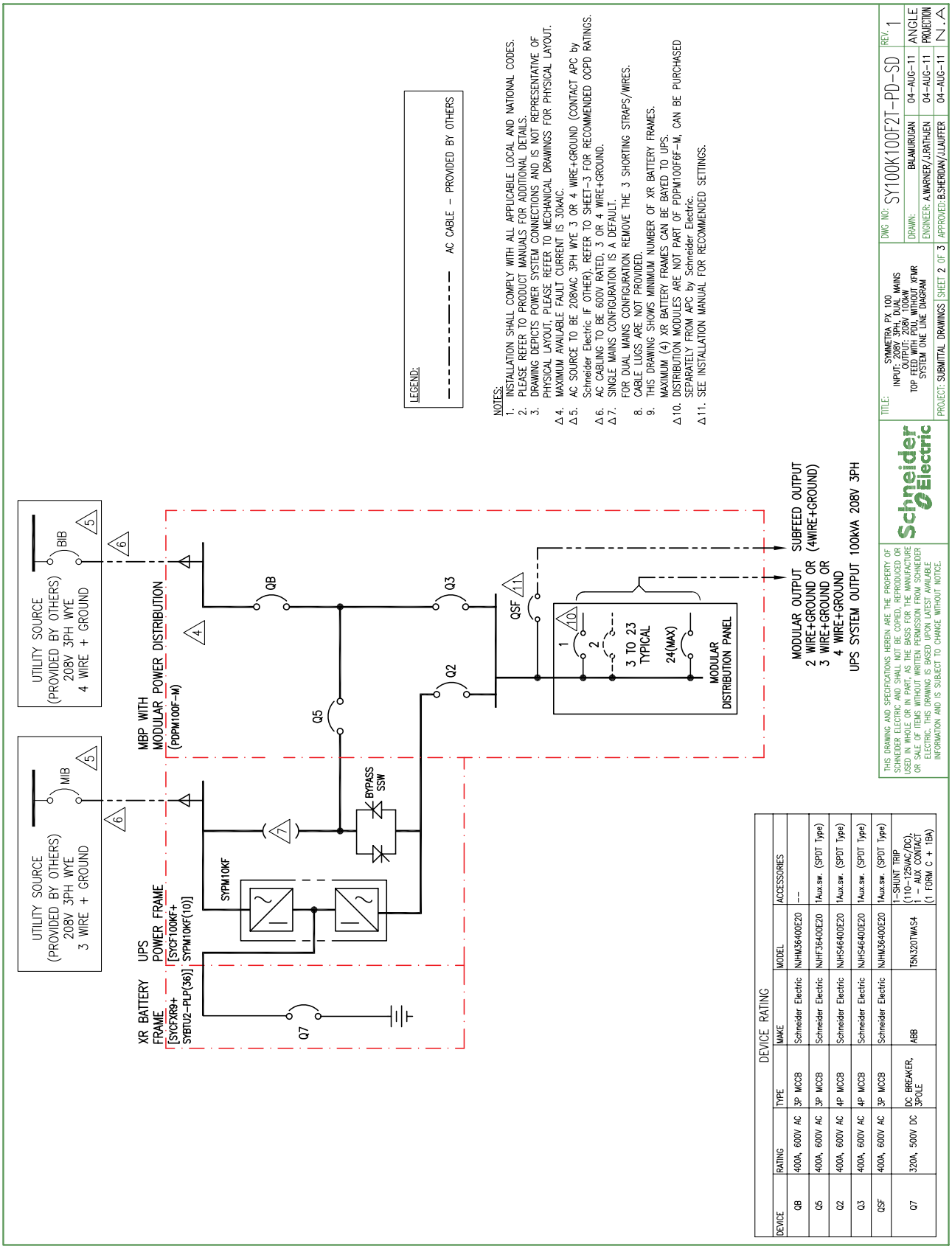
Symmetra PX 100 kW 208 V Dual Mains Bottom Feed with PDU without Transformer



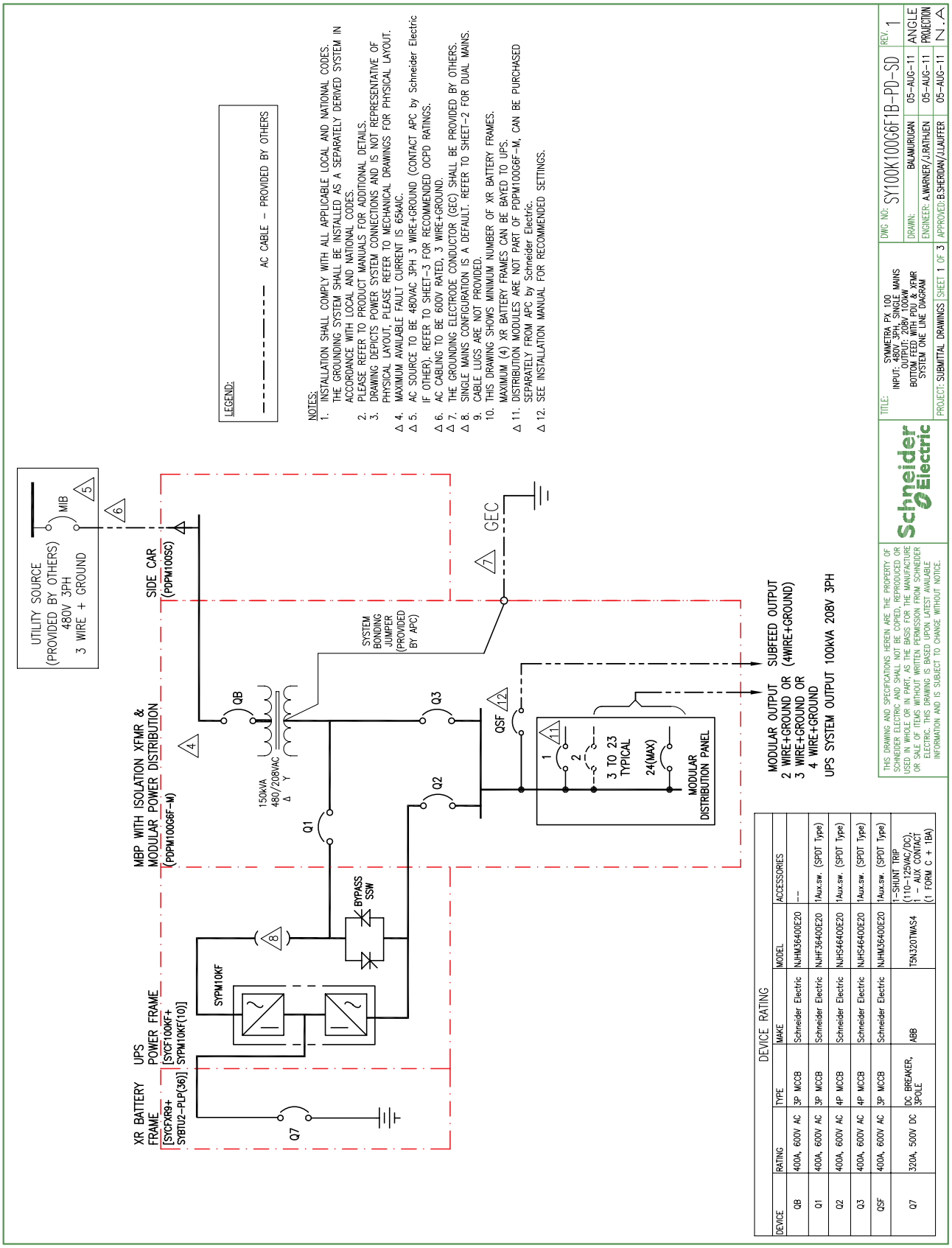
Symmetra PX 100 kW 208 V kW Single Mains Top Feed with PDU without Transformer



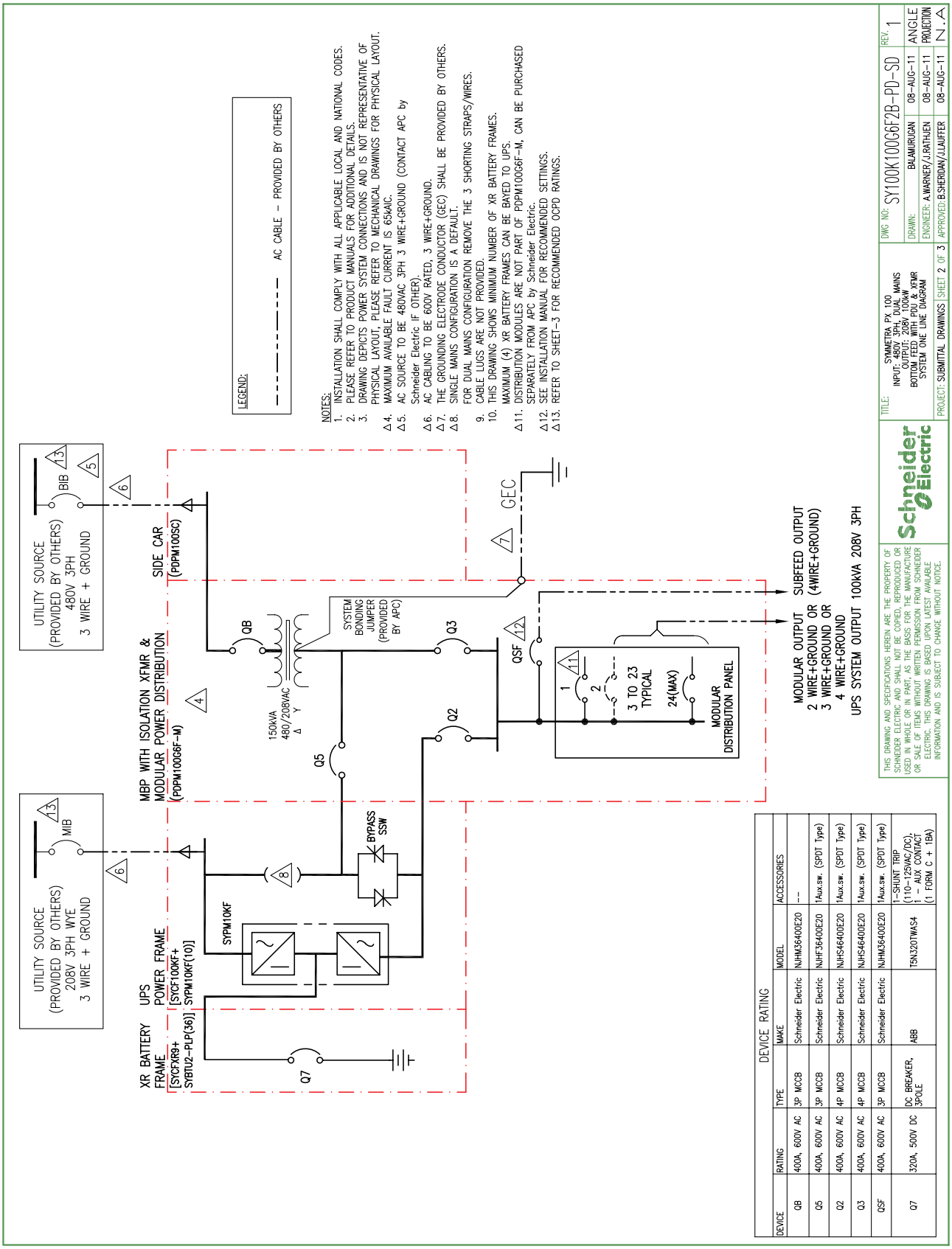
Symmetra PX 100 kW 208 V Dual Mains Top Feed with PDU without Transformer



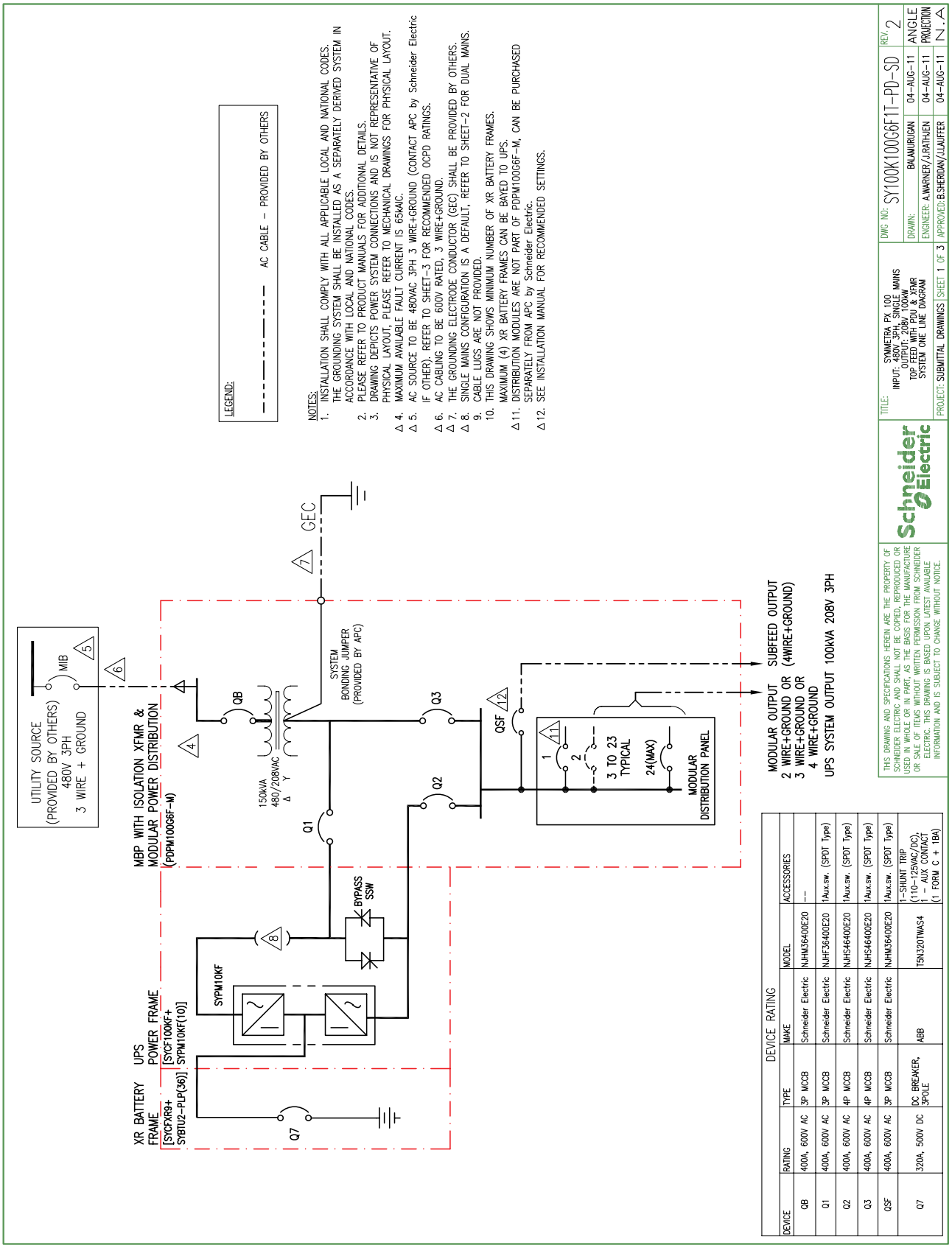
Symmetra PX 100 kW 480 V Single Mains Bottom Feed with PDU with Transformer



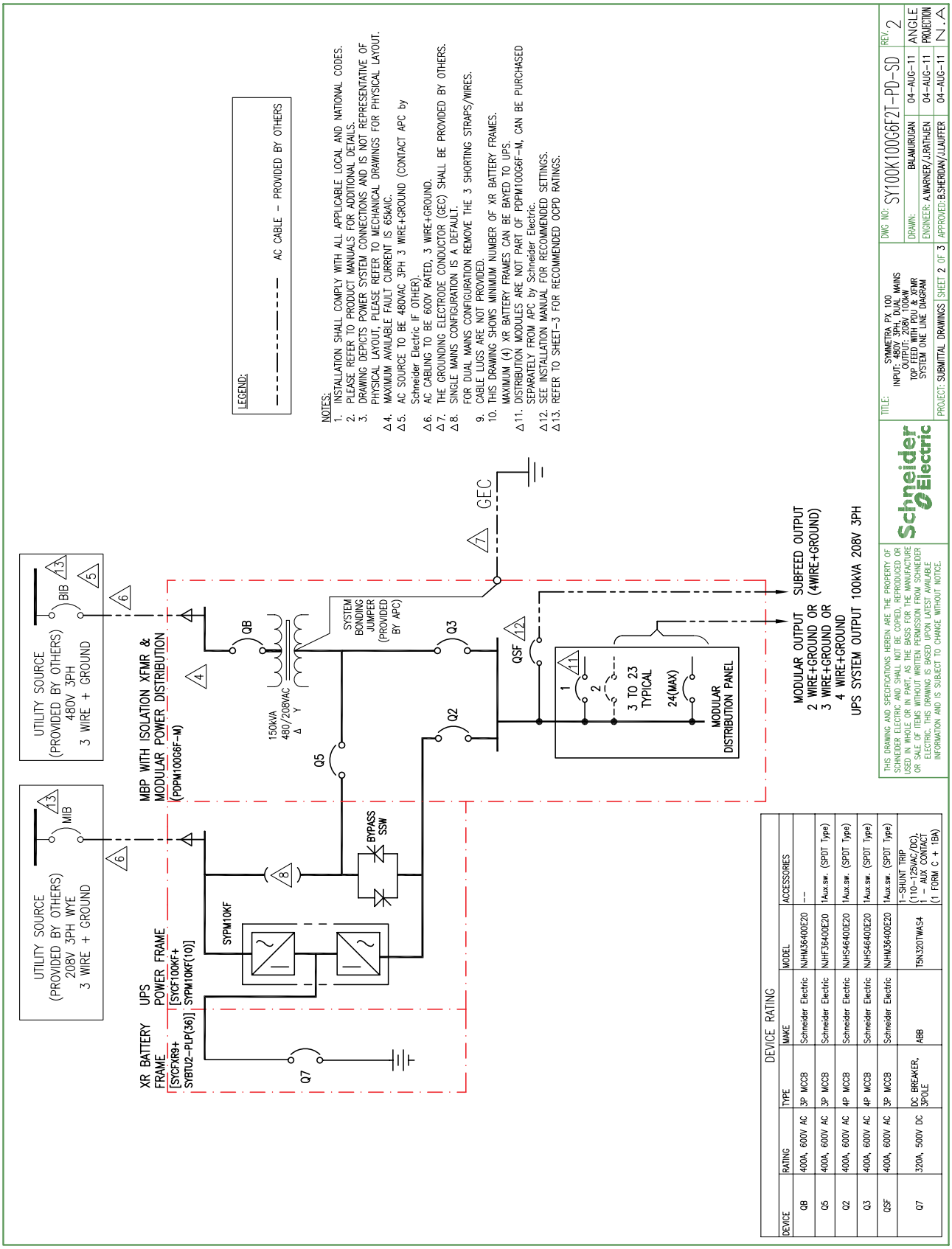
Symmetra PX 100 kW 480 V Dual Mains Bottom Feed with PDU with Transformer



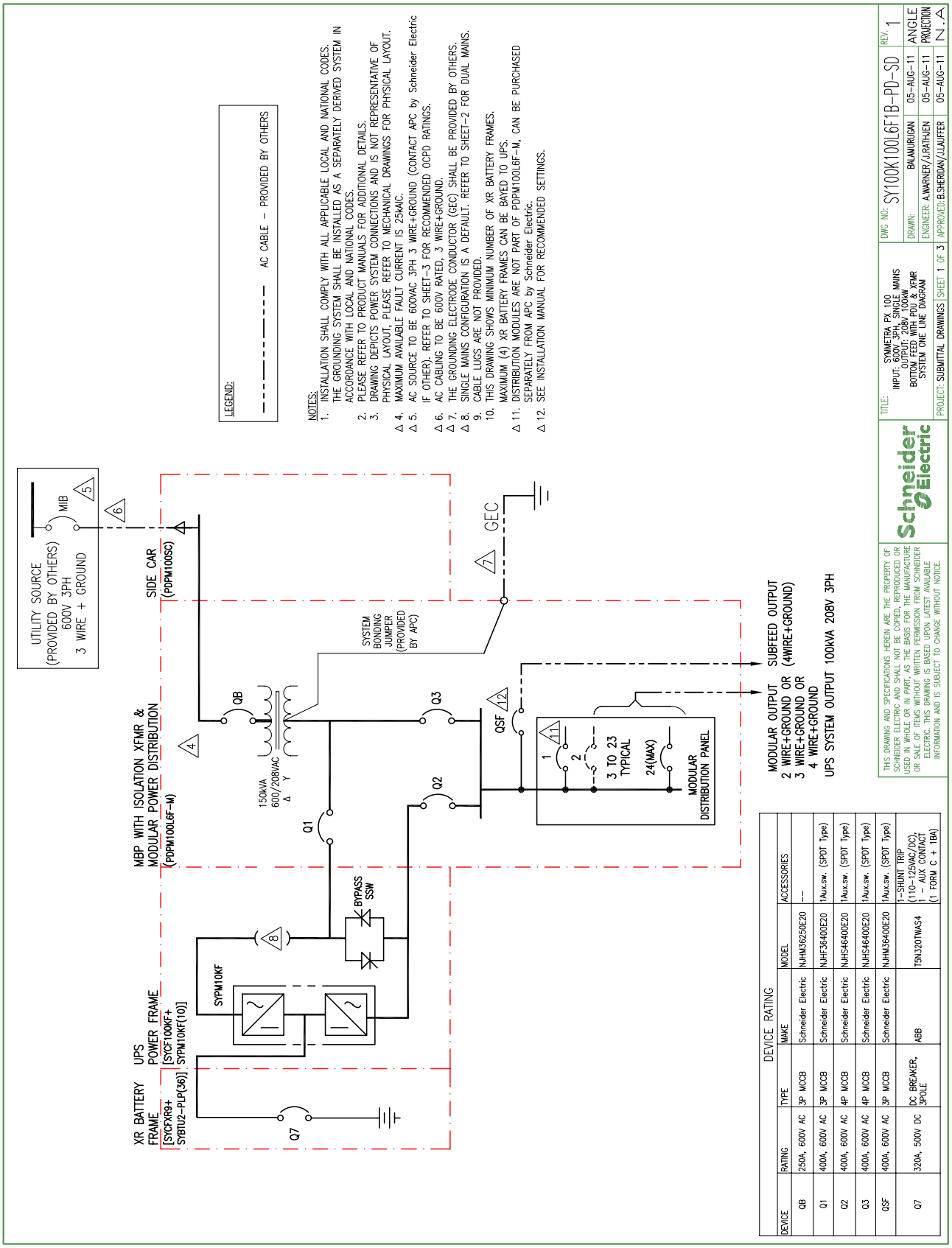
Symmetra PX 100 kW 480 V Single Mains Top Feed with PDU with Transformer



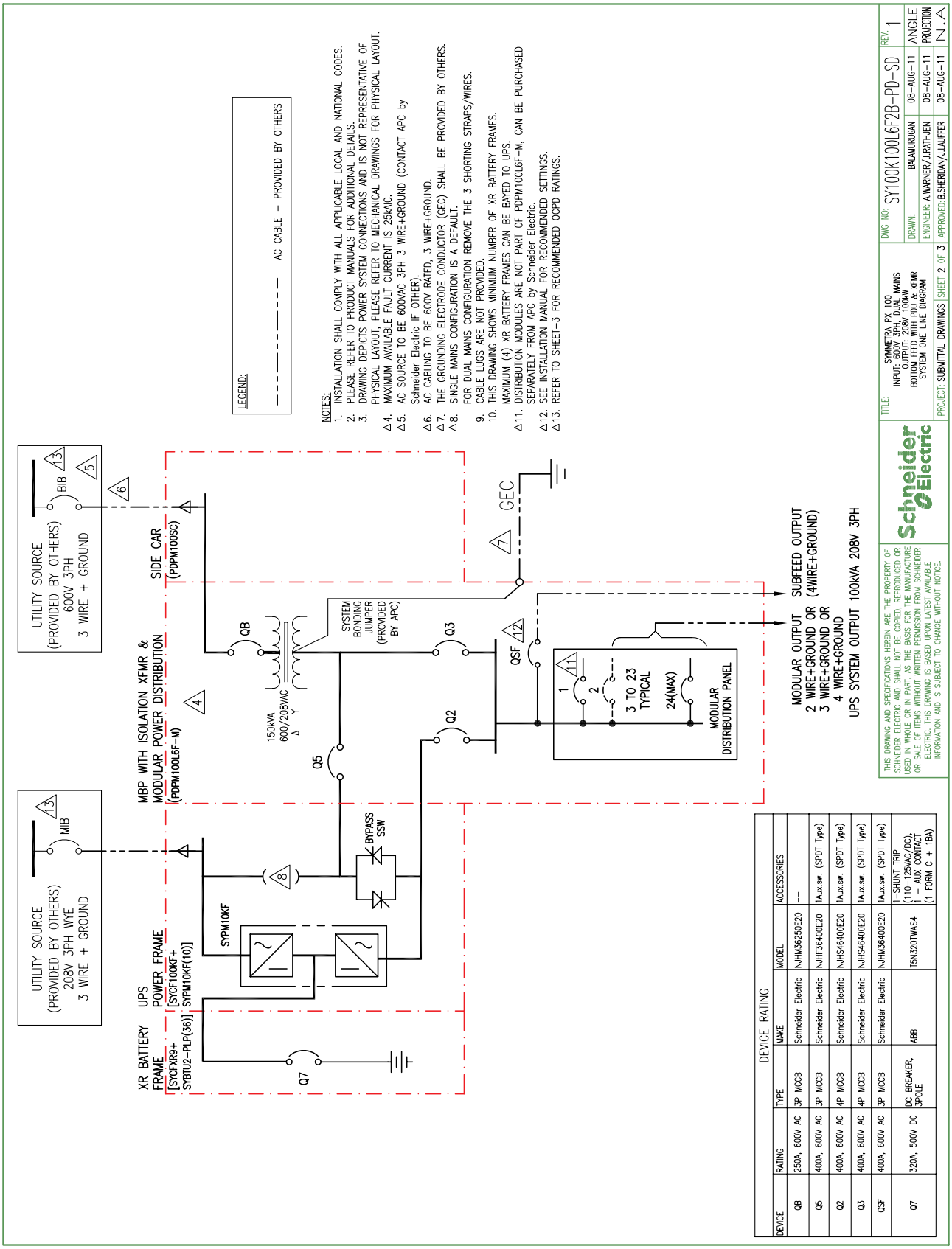
Symmetra PX 100 kW 480 V Dual Mains Top Feed with PDU with Transformer



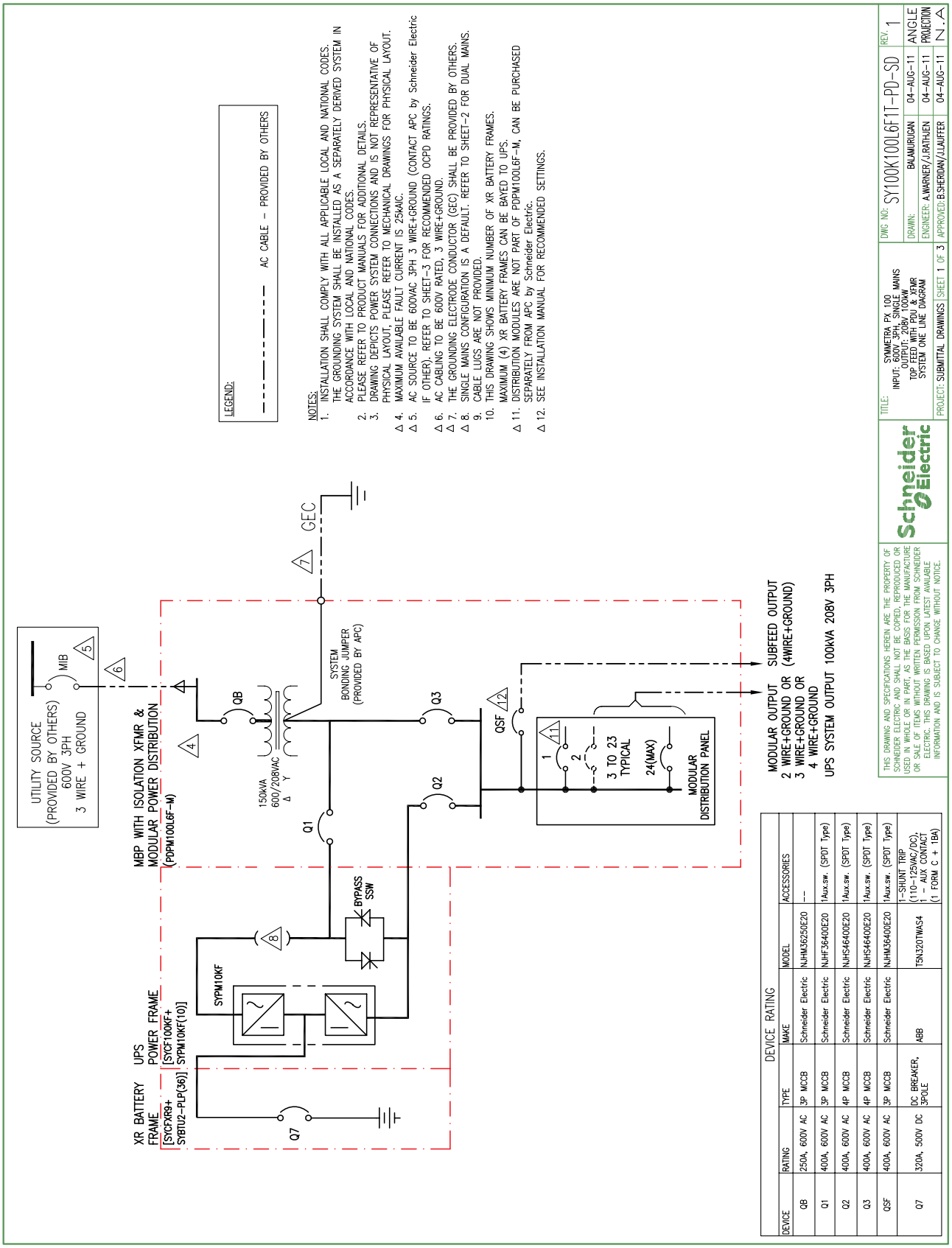
Symmetra PX 100 kW 600 V Single Mains Bottom Feed with PDU with Transformer



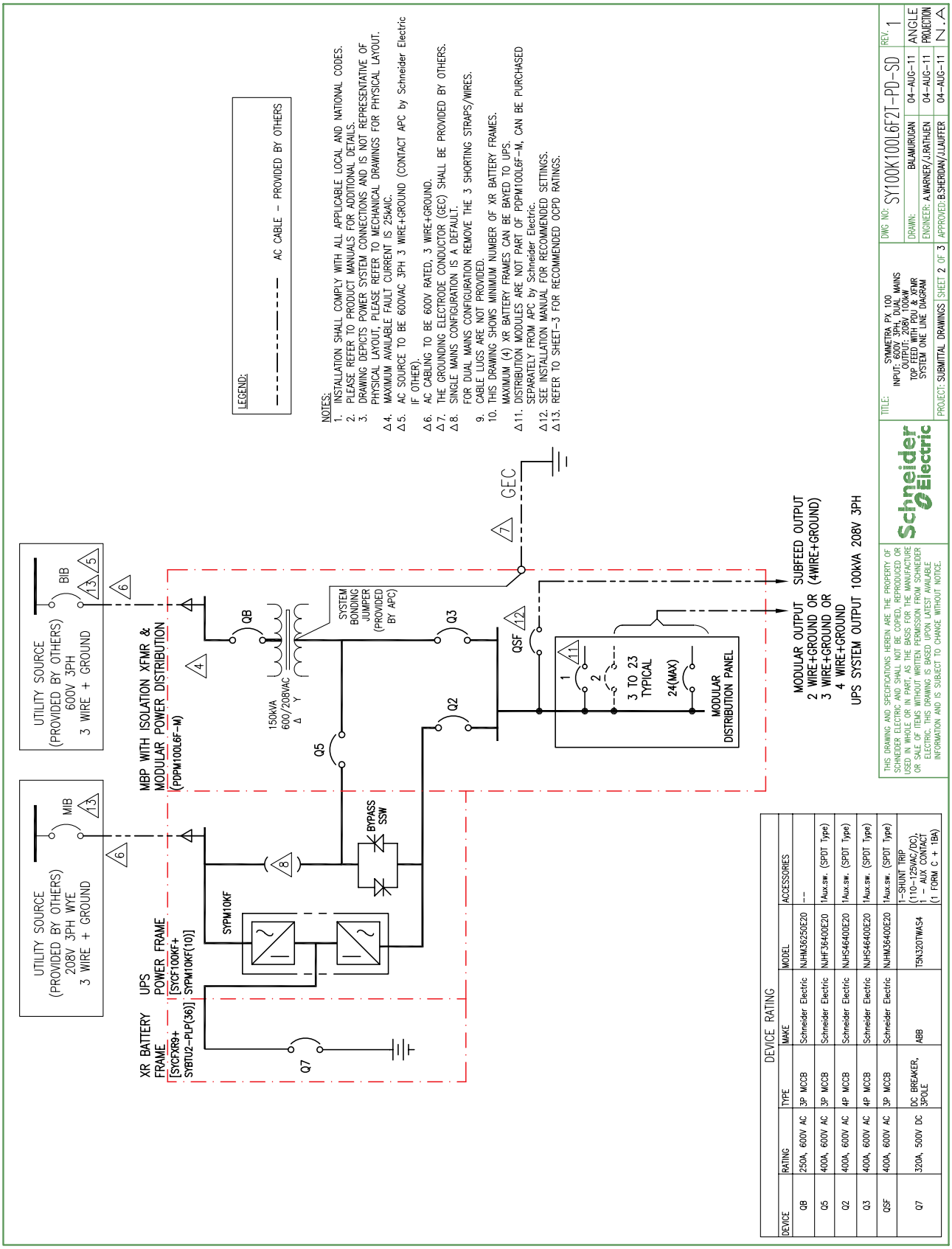
Symmetra PX 100 kW 600 V Dual Mains Bottom Feed with PDU with Transformer



Symmetra PX 100 kW 600 V Single Mains Top Feed with PDU with Transformer



Symmetra PX 100 kW 600 V Dual Mains Top Feed with PDU with Transformer



Options

Hardware Options

Symmetra Battery Systems

Symmetra PX Battery Frame for 400 V PX 96/160 kW & 208 V PX 100 kW for 9 Battery Modules	SYCFXR9
Symmetra PX Battery Frame for 400 V PX 96/160 kW & 208 V PX 100 kW with 9 Battery Modules & Startup	SYCFXR9-9
Symmetra PX Battery Frame for 400 V PX 96/160 kW & 208 V PX 100 kW for 9 Battery Modules & Startup	SYCFXR9-S

Maintenance Bypass Panels

Symmetra PX 100 kW Maintenance Bypass Panel, 208 V	SYMBP100F

100 kW Modular Power Distribution Units

Symmetra PX 100 kW Bottom Feed Side Car, 300 mm	PDPM100SC
100 kW Modular Power Distribution Unit, 208 V, 72 Poles, MBP, 1 Subfeed	PDPM100F-M
100 kW Modular Power Distribution Unit, Isolation Transformer, 208:208V, 72 Poles, MBP, 1 Subfeed	PDPM100F6F-M
100 kW Modular Power Distribution Unit, Isolation Transformer, 480:208V, 72 Poles, MBP, 1 Subfeed	PDPM100G6F-M
100 kW Modular Power Distribution Unit, Isolation Transformer, 600:208V, 72 Poles, MBP, 1 Subfeed	PDPM100L6F-M

Symmetra Accessories

Emergency Power Off (EPO)	EPW9

Modular Power Accessories

IT Power Distribution Module 2 Pole 3 Wire 30A L1-L2 L6-30 1200CM	PDM2330L6-12-1200
IT Power Distribution Module 2 Pole 3 Wire 30A L1-L2 L6-30 1400CM	PDM2330L6-12-1400
IT Power Distribution Module 2 Pole 3 Wire 30A L1-L2 L6-30 1680CM	PDM2330L6-12-1680
IT Power Distribution Module 2 Pole 3 Wire 30A L1-L2 L6-30 380cm	PDM2330L6-12-380
IT Power Distribution Module 2 Pole 3 Wire 30A L1-L2 L6-30 500CM	PDM2330L6-12-500
IT Power Distribution Module 2 Pole 3 Wire 30A L1-L2 L6-30 620CM	PDM2330L6-12-620
IT Power Distribution Module 2 Pole 3 Wire 30A L1-L2 L6-30 740CM	PDM2330L6-12-740
IT Power Distribution Module 2 Pole 3 Wire 30A L1-L2 L6-30 860CM	PDM2330L6-12-860
IT Power Distribution Module 2 Pole 3 Wire 30A L1-L2 L6-30 980CM	PDM2330L6-12-980
IT Power Distribution Module 2 Pole 3 Wire 30A L2-L3 L6-30 1200CM	PDM2330L6-23-1200
IT Power Distribution Module 2 Pole 3 Wire 30A L2-L3 L6-30 1400CM	PDM2330L6-23-1400
IT Power Distribution Module 2 Pole 3 Wire 30A L2-L3 L6-30 1680CM	PDM2330L6-23-1680
IT Power Distribution Module 2 Pole 3 Wire 30A L2-L3 L6-30 380CM	PDM2330L6-23-380
IT Power Distribution Module 2 Pole 3 Wire 30A L2-L3 L6-30 500CM	PDM2330L6-23-500
IT Power Distribution Module 2 Pole 3 Wire 30A L2-L3 L6-30 620CM	PDM2330L6-23-620
IT Power Distribution Module 2 Pole 3 Wire 30A L2-L3 L6-30 740CM	PDM2330L6-23-740
IT Power Distribution Module 2 Pole 3 Wire 30A L2-L3 L6-30 860CM	PDM2330L6-23-860
IT Power Distribution Module 2 Pole 3 Wire 30A L2-L3 L6-30 980CM	PDM2330L6-23-980
IT Power Distribution Module 2 Pole 3 Wire 30A L3-L1 L6-30 1200CM	PDM2330L6-31-1200
IT Power Distribution Module 2 Pole 3 Wire 30A L3-L1 L6-30 1400CM	PDM2330L6-31-1400
IT Power Distribution Module 2 Pole 3 Wire 30A L3-L1 L6-30 1680CM	PDM2330L6-31-1680

IT Power Distribution Module 2 Pole 3 Wire 30A L3-L1 L6-30 380CM	PDM2330L6-31-380
IT Power Distribution Module 2 Pole 3 Wire 30A L3-L1 L6-30 500CM	PDM2330L6-31-500
IT Power Distribution Module 2 Pole 3 Wire 30A L3-L1 L6-30 620CM	PDM2330L6-31-620
IT Power Distribution Module 2 Pole 3 Wire 30A L3-L1 L6-30 740CM	PDM2330L6-31-740
IT Power Distribution Module 2 Pole 3 Wire 30A L3-L1 L6-30 860CM	PDM2330L6-31-860
IT Power Distribution Module 2 Pole 3 Wire 30A L3-L1 L6-30 980CM	PDM2330L6-31-980
IT Power Distribution Module 3x1 Pole 3 Wire 20A 250V L5-20 UL 260cm 380cm 500cm	PDM1320L5-3P-1
IT Power Distribution Module 3x1 Pole 3 Wire 20A 250V L5-20 UL 680cm 860cm 1040cm	PDM1320L5-3P-2
IT Power Distribution Module 3x1 Pole 3 Wire 20A 240V L5-20 UL 1680cm 1680cm 1680cm	PDM1320L5-3P-3
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 1040cm	PDM3450CS50-1040
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 1680CM	PDM3450CS50-1680
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 200cm	PDM3450CS50-200
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 260cm	PDM3450CS50-260
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 320cm	PDM3450CS50-320
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 380cm	PDM3450CS50-380
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 440cm	PDM3450CS50-440
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 500cm	PDM3450CS50-500
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 560cm	PDM3450CS50-560
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 620cm	PDM3450CS50-620
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 680cm	PDM3450CS50-680
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 740c	PDM3450CS50-740
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 800cm	PDM3450CS50-800
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 860cm	PDM3450CS50-860
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 920cm	PDM3450CS50-920
IT Power Distribution Module 3 Pole 4 Wire 50A CS50 980cm	PDM3450CS50-980
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 1040cm	PDM3460IEC309-1040
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 1680cm	PDM3460IEC309-1680
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 200cm	PDM3460IEC309-200
IT Power Distribution Module 3 POLE 4 WIRE 60A IEC309 260CM	PDM3460IEC309-260
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 320cm	PDM3460IEC309-320
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 380cm	PDM3460IEC309-380
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 440cm	PDM3460IEC309-440
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 500cm	PDM3460IEC309-500
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 560cm	PDM3460IEC309-560
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 620cm	PDM3460IEC309-620
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 680cm	PDM3460IEC309-680
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 740cm	PDM3460IEC309-740
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 800cm	PDM3460IEC309-800
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 860cm	PDM3460IEC309-860
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 920cm	PDM3460IEC309-920
IT Power Distribution Module 3 Pole 4 Wire 60A IEC309 980cm	PDM3460IEC309-980
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 1040cm	PDM3520L2120-1040
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 1680cm	PDM3520L2120-1680
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 200cm	PDM3520L2120-200
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 260cm	PDM3520L2120-260
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 320cm	PDM3520L2120-320
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 380cm	PDM3520L2120-380

IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 440cm	PDM3520L2120-440
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 500cm	PDM3520L2120-500
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 560cm	PDM3520L2120-560
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 620cm	PDM3520L2120-620
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 680cm	PDM3520L2120-680
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 740cm	PDM3520L2120-740
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 800cm	PDM3520L2120-800
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 860cm	PDM3520L2120-860
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 920cm	PDM3520L2120-920
IT Power Distribution Module 3 Pole 5 Wire 20A L21-20 980cm	PDM3520L2120-980
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 1040cm	PDM3530L2130-1040
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 1680cm	PDM3530L2130-1680
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 200cm	PDM3530L2130-200
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 260cm	PDM3530L2130-260
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 320cm	PDM3530L2130-320
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 380cm	PDM3530L2130-380
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 440cm	PDM3530L2130-440
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 500cm	PDM3530L2130-500
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 560cm	PDM3530L2130-560
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 620cm	PDM3530L2130-620
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 680cm	PDM3530L2130-680
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 740c	PDM3530L2130-740
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 800cm	PDM3530L2130-800
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 860cm	PDM3530L2130-860
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 920cm	PDM3530L2130-920
IT Power Distribution Module 3 Pole 5 Wire 30A L21-30 980cm	PDM3530L2130-980

Modular Power Distribution

Modular Remote Power Panel, 144 kW, 400 A, 208 V, 72 Pole, 300 mm	PDPM144F
Modular Rack Distribution Panel, 72 kW, 200 A, 208 V, 18 Pole, 5U	PDPM72F-5U

Configurable Power Distribution

InfraStruxure PDU, 150kVA, 416A, 480V:208V Isolation Transformer, 84 Poles, 1 Subfeed	PDPB150G6F
Rack Distribution Panel 208 V	PDRDPF10U-R

Symmetra Power Module

Symmetra PX 10 kW Power Module, 208 V	SYPM10KF2

Seismic Kits

Seismic Kit for 600 mm Symmetra PX Battery Cabinets	SYOPT009
Seismic Kit for 300 mm Symmetra PX 100, Symmetra PX 250/500, and Modular PDU Frames	SYOPT300
Seismic Kit for 600 mm Symmetra PX 100 and Symmetra PX 250/500 Frames	SYOPT600

Configuration Options

- Single or dual feed

- Top or bottom feed
- Internal N+1 redundancy
- Swappable 9 Ah batteries
- Up to four extended run battery enclosures
- Seismic bracket kits
- Modular PDU with maintenance bypass and swappable power distribution modules (600:208 V, 480:208 V, 208:208 V, 208 V transformerless)
- 300 mm maintenance bypass panel
- Bottom Feed Sidecar (supports bottom feed utility inputs for installations that include a Modular PDU with a transformer
- SmartSlot communication cards
- StruxureWare Data Center Expert compatible
- Custom wall-mount maintenance bypass panel (contact Schneider Electric)
- Generator compatible

Limited Factory Warranty

One-Year Factory Warranty

The limited warranty provided by Schneider Electric in this Statement of Limited Factory Warranty applies only to products you purchase for your commercial or industrial use in the ordinary course of your business.

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Schneider Electric warrants for the warranty period and on the terms of the warranty set forth herein that the Schneider Electric product will substantially conform to the descriptions contained in the Schneider Electric Official Published Specifications or any of the drawings certified and agreed to by contract with Schneider Electric if applicable thereto (“Specifications”). It is understood that the Specifications are not warranties of performance and not warranties of fitness for a particular purpose.

Exclusions

Schneider Electric shall not be liable under the warranty if its testing and examination disclose that the alleged defect in the product does not exist or was

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